



# Proposed National Environmental Standard for Plantation Forestry: Section 32 Evaluation

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# EXECUTIVE SUMMARY

## THE NATIONAL ENVIRONMENTAL STANDARD FOR PLANTATION FORESTRY

Plantation forestry is a nationally important industry for New Zealand that faces significant uncertainty as a result of unwarranted variation in Resource Management Act 1991 (RMA) plan provisions across the country. This creates significant operational and regulatory uncertainty for the forestry industry and can lead to uncertain and inconsistent environmental outcomes.

To address these issues, the Minister for the Environment and the associate Minister for Primary Industries propose to introduce the National Environmental Standards for Plantation Forestry (NES-PF), pursuant to section 43 and 43A of the RMA. The policy objective of the NES-PF is to:

- a) Maintain or improve the environmental outcomes associated with plantation forestry activities nationally; and*
- b) Increase efficiency and certainty in the management of plantation forestry activities.*

The NES-PF has been refined over several years to ensure the NEPSF provisions (rules and conditions) are efficient, effective, and achieve the policy objective by:

- Providing nationally consistent rules that remove unwarranted variation in regional and district rules for plantation forestry;
- Establishing rules that permit plantation forestry activities where it is efficient and appropriate to do so, and where the activities will not have significant adverse effects on the environment;
- Requiring resource consent for activities where environmental risk is greater and more regulatory oversight is appropriate, or where permitted activity conditions are not complied with; and
- Allowing councils to have more stringent rules than the NES-PF in specific circumstances, notably to give effect to national instruments (the New Zealand Coastal Policy Statement and National Policy Statement for Freshwater Management), to manage unique locally significant areas and sensitive receiving environments, and to protect sources of human drinking water.

## SECTION 32 EVALUATION OF THE NES-PF

The purpose of this report is to provide an evaluation of the NES-PF in accordance with section 32 of the RMA. Section 32 requires an evaluation of a proposal (including a proposed national environment standard) to determine whether:

- The objectives of the proposal are appropriate to achieve the purpose of the RMA; and
- The provisions of the proposal are the most appropriate to achieve those objectives based on an assessment of efficiency, effectiveness, benefits, costs and risks.

This evaluation found that the impacts of the NES-PF will vary significantly throughout New Zealand based on existing plan provisions, local environmental conditions (e.g. erosion risk), and the nature of the forestry industry within the region/district. This evaluation has therefore focused on assessing the appropriateness, effectiveness and efficiency of the NES-PF at a national level and a qualitative assessment of benefits and costs anticipated from the NES-PF.

The key findings of this evaluation are as follows:

- ***Policy objective:*** the policy objective of the NES-PF is considered to be the most appropriate option to achieve the purpose of the RMA. The policy objective seeks to maintain or improve environmental outcomes by implementing industry best practice nationally, consistent with the environmental directives in Part 2 of the RMA. The policy objective also directly responds to a nationally important resource management issue – unwarranted variation in the management of New Zealand’s third largest primary industry. The policy objective aims to achieve greater certainty and efficiency in the management of forestry activities under the RMA which will enable foresters and the wider community that benefits from the forestry industry to better provide for their economic and social wellbeing consistent with section 5(2) of the RMA.
- ***Other reasonably practicable options:*** a number of reasonably practical options have been considered to achieve the policy objective. The assessment found that a NES is the most appropriate option. A NES was found to be the most effective and certain option to provide greater national consistency, remove unwarranted variation and deliver net economic and environmental benefits. A largely permitted activity regime that uses performance based conditions, coupled with a requirement for resource consent where risks exceed acceptable thresholds, was also found to be the most appropriate underlying option for the NES-PF. This ‘risk based’ approach is both efficient and effective as it enables lower risk activities to be undertaken as permitted activities, while focusing regulatory effort on higher risk activities.
- ***Effectiveness assessment:*** this evaluation found that the NES-PF provisions will be ‘effective’ to maintain or improve environmental outcomes and increase certainty in the management of forestry activities under the RMA. In particular:
  - The NES-PF provisions are targeted to the effects and risks associated with forestry activities and are designed to achieve consistent, more certain environmental outcomes through the consistent application of established best practice forestry management practices. A key focus of the NES-PF is managing sediment and erosion at source and using a risk based approach and management plans to proactively identify and manage activity and site-specific risks. Foresters and councils will benefit from the use of risk management tools and improved centralised information on environmental risks to better inform decision-making. In particular, the Erosion Susceptibility Classification (ESC) which provides a tool to assess erosion risk and apply consent requirements on high risk land.
  - The rules, conditions, and performance standards in the NES-PF are generally based on existing plan provisions, consent conditions and voluntary industry practices. In that sense, the NES-PF is focused on improving practice across the country rather than introducing fundamental change. In some regions/districts this will result in forestry activities being required to meet the same environmental outcomes as they do currently, while in other regions/districts an improvement in environmental outcomes is likely. The NES-PF also allows councils to retain or introduce more stringent rules in certain circumstances to protect locally significant areas and give effect to national policy instruments.
  - In the short-term, there will be a degree of transitional uncertainty as NES-PF provisions become embedded in industry and council practice. This will be offset

in the medium to long-term through the significant certainty benefits associated with nationally consistent provisions for the management of forestry under the RMA. This will benefit all foresters and be of particular benefit to foresters who operate in multiple districts/regions. Foresters can also expect the overall intent of the NES-PF to remain relatively consistent over the forest life cycle, which will significantly improve operational and investment certainty.

- The NES-PF will introduce consistent permitted activity conditions and focused consent requirements, through the use of controlled and restricted discretionary consent status and the application of targeted matters of control/discretion. This will provide significantly greater certainty compared to the current regime where a full discretionary process with a wide range of considerations may apply. These certainty benefits are likely to increase over time as the NES-PF becomes embedded in practice.
- **Efficiency assessment:** this evaluation found that the NES-PF provisions will be 'efficient' based on an assessment of the benefits and costs anticipated from the implementation of the provisions. In particular:
  - The NES-PF will provide an efficient approach to maintain or improve environmental outcomes by introducing a nationally consistent rule set based on industry best practice. It utilises a risk based approach to achieve an appropriate balance between a permitted activity regime and targeted consent requirements when environmental risk exceeds acceptable thresholds. This was found to be the most cost-effective approach.
  - In economic terms, the NES-PF provisions will have a positive benefit to cost ratio which has been confirmed in an independent Cost-Benefit Analysis (CBA). The expected economic benefits from the NES-PF are primarily:
    - Improved regulatory certainty and efficiency for users and implementers through a nationally consistent set of rules and conditions to use and implement. In particular, foresters will benefit from a standard set of permitted activity conditions to comply with across the country and a more focused, and thereby efficient, resource consent process.
    - Significant ongoing plan development and advocacy savings for all stakeholders. Foresters will incur significantly less cost advocating for more consistent forestry provisions at the local and central level and councils will spend considerably less resource developing and reviewing forestry provisions.
    - It is also expected that efficiency benefits of the NEPF will increase over time as foresters and councils become familiar with the NES-PF and develop standard procedures and templates.
  - Further analysis post-consultation also indicates the benefit to cost ratio is likely to be higher than when the CBA was undertaken in 2016. This is due to some key benefits (i.e. environmental) not being quantified and the expectation that some efficiency benefits will be greater than predicted (partly due to refinements through the drafting process). However, the most significant change is the reclassification of land back into the ESC Orange Zone in 2017 meaning resource consent is no longer required under the NES-PF. This means the increase in consent numbers and associated costs predicted in the partial CBA due to the ESC

changes in 2016 are unlikely to occur and this was the most significant cost predicted in this analysis<sup>1</sup>. Collectively, these changes are likely to significantly improve the overall benefit to cost ratio of the NES-PF.

- ***Risks of acting where there is uncertain or insufficient information:*** There is a high level of confidence that the NES-PF will deliver its expected benefits, particularly in relation to improved operational and regulatory certainty, improved consistency in how forestry activities are managed under the RMA, and delivering the same or improved environmental outcomes. However, there are inevitably some information gaps and uncertainties in this evaluation. In particular:
  - There are uncertainties in the quantitative costs and benefits provided in the 2016 CBA;
  - There is a degree of uncertainty about how the provisions will be implemented nationwide and the levels of compliance from foresters (and associated compliance monitoring from councils); and
  - It is unclear how the ability for councils to have more stringent rules than the NES-PF will be exercised.

These potential risks will be mitigated through a comprehensive implementation package and a proactive monitoring and evaluation programme to ensure the NES-PF is achieving its objective. The monitoring and evaluation programme will also provide a basis for continuous improvement of the NES-PF to recognise improvements in forestry practices and improved knowledge.

Overall, this evaluation has demonstrated that the NES-PF policy objective is the most appropriate to achieve the purpose of the RMA, and the NES-PF provisions will be effective and efficient to maintain or improve the environmental outcomes associated with plantation forestry, while increasing efficiency and certainty in the management of those activities under the RMA.

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<sup>1</sup> Estimated at 543,000 per year for large forest companies, \$168,000 per year for small forest companies.

# 1 INTRODUCTION

## 1.1 OVERVIEW

The Minister for the Environment and the Minister for Primary Industries propose to introduce the National Environmental Standards for Plantation Forestry (NES-PF), pursuant to section 43 and 43A of the Resource Management Act 1991 (RMA). The policy objective of the NES-PF is to:

- a) *Maintain or improve the environmental outcomes associated with plantation forestry activities nationally; and*
- b) *Increase efficiency and certainty in the management of plantation forestry activities under the RMA.*

This report provides an evaluation of the NES-PF in accordance with section 32 of the RMA. Section 32 requires an evaluation of a proposal (including proposed national environment standards) to determine whether:

- The objectives of the proposal are appropriate to achieve the purpose of the RMA; and
- The provisions of the proposal are the most appropriate to achieve those objectives based on an assessment of efficiency, effectiveness, benefits, costs and risks.

This evaluation should be read alongside the summary of submissions and recommended amendments and a number of technical assessments and reports that have informed the development of the NES-PF. These can be found on the MPI website: [www.mpi.govt.nz](http://www.mpi.govt.nz)

## 1.2 NATIONAL ENVIRONMENTAL STANDARDS

National environmental standards (NES) are regulations that apply nationally or within a specified part of New Zealand. They are binding on local authorities and local authorities must observe an NES (section 44A(7)) and enforce the observation of the NES to the extent to which their powers enable them to do so (section 44(8)). NES can be established to maintain a healthy environment, protect people and the environment, and to secure a consistent decision-making process nationally. They can address a range of environmental issues, and manage the effects of specific activities on people and the environment.

Under section 43A of the RMA, a NES can prohibit an activity or allow an activity. Where a NES permits an activity, it can:

- a) State that a resource consent is not required for that activity; or
- b) Do one or both of the following:
  - i. State an activity is permitted subject to terms and conditions specified in the standards; and
  - ii. Require compliance with the rules in a plan or proposed plan as a term or condition.

A NES must not state that an activity is a permitted activity if that activity has significant adverse effects on the environment (section 43A(3)).

A NES can also restrict the granting of a resource consent to matters specified in a national environmental standard (section 43A(1)(c)). Under section 43A(6), a NES that allows a resource consent to be granted for an activity:

- (a) May state that the activity is:
  - i. A controlled activity; or

- ii. A restricted discretionary activity; or
- iii. A discretionary activity; or
- iv. A non-complying activity; and

(b) May state the matters over which:

- i. Control is reserved; or
- ii. Discretion is restricted.

Section 44 of the RMA sets out statutory prerequisites that must be adhered to prior to making a NES. This section requires the Minister to:

- Comply with the consultation requirements for national directions in section 46A(3)<sup>2</sup>;
- Prepare an evaluation report in accordance with section 32;
- Have particular regard to the section 32 report when making recommendations on the NES; and
- Publicly notify the evaluation report and recommendation on the NES.

The relevant statutory provisions in the RMA for section 32 evaluations and the making of NES are provided in full in **Appendix A**.

### 1.3 PROPOSED NATIONAL ENVIRONMENTAL STANDARD FOR PLANTATION FORESTRY

The NES-PF has been developed and refined over a number of years to ensure the provisions (rules and conditions) of the NES-PF are efficient, effective, and will achieve the policy objective. This is intended to be achieved by:

- Providing nationally consistent rules and conditions for the management of plantation forestry under the RMA that remove unwarranted variation<sup>3</sup> in regional and district rules;
- Establishing rules that permit plantation forestry activities where it is efficient and appropriate to do so, and where the activities will not have significant adverse effects on the environment;
- Requiring resource consent for activities where the risk exceeds acceptable thresholds and more site-specific oversight is needed; and
- Allowing councils to have more stringent rules than the NES-PF to give effect to national instruments and to manage unique locally significant areas and sensitive receiving environments.

The NES-PF will provide a nationally consistent set of planning controls and risk assessment tools to manage eight core forestry activities as permitted activities, provided they comply with performance based conditions. The eight core forestry activities regulated under the NES-PF are provided in Table 1 below.

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<sup>2</sup>These references are those following amendments to the RMA by the RLAA in 2017, although consultation on the proposed NES-PF was undertaken prior to the changes. These requirements were amended by the RLAA 2017 after consultation on the proposed NES-PF had been undertaken.

<sup>3</sup> Unwarranted variation is defined as a level of variation between plans that does not provide any discernible environmental, economic, social or cultural benefit and imposes a cost.

**Table 1:** The eight core forestry activities regulated under the NES-PF.

<b>Plantation Forestry Activities</b>	<b>Definition in NES-PF</b>
<b>Afforestation</b>	<p>(a) means planting and growing plantation forestry trees on land where there is no plantation forestry and where plantation forestry harvesting has not occurred within the last 5 years; but</p> <p>(b) does not include vegetation clearance from the land before planting</p>
<b>Pruning and thinning to waste</b>	<p>No specific definition of 'pruning' in the NES-PF, however 'thinning to waste' is defined as follows:</p> <p><i>means the selective felling of trees within a stand, where the felled trees remain on site and those trees are plantation forest trees</i></p>
<b>Earthworks</b>	<p>(a) means disturbance of the surface of the land by the movement, deposition, or removal of earth (or any other matter constituting the land, such as soil, clay, sand, or rock) in relation to plantation forestry; and</p> <p>(b) includes the construction of forestry roads, forestry tracks, landings and river crossing approaches, cut and fill operations, maintenance and upgrade of existing earthworks, and forestry road widening and realignment; but</p> <p>(c) does not include soil disturbance by machinery passes, forestry quarrying, or mechanical land preparation</p>
<b>River Crossing</b>	<p>(a) means a structure that is required for the operation of a plantation forest and provides for vehicles or machinery to cross over a water body; and</p> <p>(b) includes an apron and other structures and materials necessary to complete a river crossing; but</p> <p>(c) does not include a stormwater culvert or a culvert under a forestry road or forestry track</p>
<b>Forestry Quarrying</b>	<p>(a) means the extraction of rock, sand, or gravel for the formation of forestry roads and construction of other plantation forestry infrastructure, including landings, river crossing approaches, abutments, and forestry tracks,—</p> <ol style="list-style-type: none"> <li>within a plantation forest; or</li> <li>required for the operation of a plantation forest on adjacent land owned or managed by the owner of the plantation forest; and</li> </ol> <p>(b) includes the extraction of alluvial gravels outside the bed of a river, extraction of minerals from borrow pits, and the processing and stockpiling of material at the forest quarry site; but</p> <p>(c) does not include earthworks, mechanical land preparation, or gravel extraction from the bed of a river, lake, or other water body</p>
<b>Harvesting</b>	<p>(a) means felling trees, extracting trees, thinning of tree stems and extraction for sale or use (production thinning), processing trees into logs, or loading logs onto trucks for delivery to processing plants; but</p> <p>(b) does not include—</p> <ol style="list-style-type: none"> <li>milling activities or processing of timber; or</li> <li>vegetation clearance of vegetation that is not a plantation forest tree</li> </ol>
<b>Replanting</b>	<p><i>means the planting and growing of plantation forestry trees on land less than 5 years after plantation forestry harvesting has occurred</i></p>
<b>Mechanical land preparation</b>	<p>(a) means using machinery to prepare land for replanting trees, including root-raking, discing, ripping, roller crushing, clearing slash, and mounding the soil into raised areas; but</p>

	<p><i>(b) does not include—</i></p> <ul style="list-style-type: none"> <li><i>i. the creation of alternating drains and planting mounds using a vshaped blade attached to the front of a bulldozer; or</i></li> <li><i>ii. earthworks or forestry quarrying</i></li> </ul>
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The permitted activity conditions for the forestry activities in Table 1 include:

- Conditions that avoid, remedy, or mitigate adverse environmental effects (e.g. setback requirements, implementation of erosion and sediment control measures);
- Requirements for the preparation of, and compliance with, management plans for higher-risk forestry activities (earthworks, quarrying and harvesting) to enable site specific risks to be identified and managed; and
- Notification of regional councils<sup>4</sup> and territorial authorities of the commencement of certain forestry activities (afforestation, earthworks, river crossings, forest quarrying, harvesting) to enable risk-based compliance monitoring to be undertaken where appropriate.

The NES-PF includes three risk assessment tools (the Erosion Susceptibility Classification (ESC), Wilding Conifer Calculator, and Fish Spawning Indicator) which are incorporated by reference into the regulations. They enable location specific assessments of risk to be undertaken in relation to erosion, wilding conifer spread, and fish spawning. This provides for a more tailored approach to the management of adverse effects, including requiring a resource consent to be obtained where risks exceed acceptable thresholds.

The NES-PF also allows for certain ancillary activities associated with forestry activities (slash traps and vegetation clearance) to be permitted, provided they comply with certain standards and conditions. There are also general conditions in the NES-PF relating to discharges, disturbances, and diversions (which includes restrictions on bed disturbance activities during fish spawning times), noise, dust, bird nesting and fuel storage and refuelling that must be complied with when carrying out all of the forestry activities regulated under the NES-PF.

The NES-PF generally takes precedence over rules in regional and district plans. However, the NES-PF allows councils to impose more stringent rules in certain circumstances. These circumstances are limited to when plan rules:

- Give effect to the National Policy Statement for Freshwater Management (NPSFM) and New Zealand Coastal Policy Statement (NZCPS);
- Recognise and provide for the matters of national importance under section 6(b) and 6(c) of the RMA; or
- Manage specific unique and sensitive environments (geothermal areas, karst geologies, and areas with Separation Point granite soils) and certain sources of human drinking water supply.

The ability to be more stringent applies to existing plan rules that relate to these matters and also new rules provided they meet the requirements of section 32(4)<sup>5</sup> of the RMA. There are

<sup>4</sup> Note, for the purpose of this report, regional councils also refers to the regional council functions of unitary authorities.

<sup>5</sup> Section 32(4) requires that if a rule imposes a prohibition or greater restriction on an activity to which a national environmental standard applies, the evaluation report must examine whether the prohibition or restriction is justified in the circumstances of each region or district in which the prohibition or restriction would have effect.



also certain effects and activities related to forestry that are not regulated under the NES-PF and will continue to be managed under the relevant plan (e.g. effects on cultural and historic heritage).

## 1.4 DEVELOPMENT OF NES-PF

Development of the NES-PF was initially led by the Ministry for the Environment (MfE) who first proposed a NES for Plantation Forestry in 2010. The intent of the proposed NES was to improve national consistency in RMA plan rules relating to plantation forestry and provide certainty for those involved in managing plantation forests.

Since 2013, the Ministry for Primary Industries (MPI) has led the work to assess the problem of unwarranted variation in the management of plantation forestry under the RMA which led to the development of the NES-PF. A summary of the development of the NES-PF is provided in Table 2 below and a more detailed explanation of the development of the NES-PF can be found on the MPI website: [www.mpi.govt.nz](http://www.mpi.govt.nz)

**Table 2:** Summary of development of NES-PF.

Stage	Focus of work
<b>Development of the initial NES for plantation forestry</b> 2009-2011	MfE led the initial work on a NES for plantation forestry. This initial proposal was consulted on in 2010 followed by consultation on a revised proposal in 2011. Feedback from submissions indicated that further development of the proposal was needed.  Work on the NES-PF was subsequently deferred by MfE while the Government consulting on proposals for resource management and freshwater reform.
<b>Development of NES-PF</b> 2013-2015	From 2013-2015, MPI led work to further analyse options to address forestry issues under the RMA and reformed the Stakeholder Working Group. This exercise confirmed that the NES is the most appropriate option to address the problem of unwarranted variation. The proposed NES-PF was then developed which involved extensive engagement with stakeholders, including ongoing input from a Stakeholder Working Group.
<b>Public consultation on NES-PF</b> June – August 2015	Public consultation occurred on the proposed NES-PF over an eight week period from 17 June 2015 until 11 August 2015. This was based on a consultation document to seek feedback on the subject matter of the NES-PF. A total of 18,732 submissions were received on the proposal, of which 356 were unique submissions.
<b>Proposal refinement and regulation drafting</b> August 2015-February 2017	This stage involved analysis of submissions and extensive engagement with stakeholders and technical experts to address issues raised in submissions. Revised technical assessments and cost-benefit analysis were also undertaken. This was followed by Cabinet approval of the NES-PF policy proposal in June 2016 as a basis for drafting the regulations.
<b>Exposure draft process –</b> February-March 2017	An exposure draft of the regulations was reviewed by a targeted group of technical experts from councils, industry and environmental NGOs to provide feedback on the clarity and workability of the regulations. Two independent reviews were also commissioned to test the regulations from the perspective of planners and foresters.
<b>Refinement and finalising regulations</b> March – June 2017	The NES-PF has been refined in response to feedback on the exposure draft to ensure the regulations are workable and will achieve the policy objective. Further consultation was also carried out on a new proposal to include provisions for councils to charge for monitoring permitted activities under the proposed NES-PF.

## 1.5 SECTION 32 EVALUATION AND REPORT

Section 32(1) of the RMA states that an evaluation must:

- a) *examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act; and*
- b) *examine whether the provisions in the proposal are the most appropriate way to achieve the objectives by—*
  - i. *identifying other reasonably practicable options for achieving the objectives; and*
  - ii. *assessing the efficiency and effectiveness of the provisions in achieving the objectives; and*
  - iii. *summarising the reasons for deciding on the provisions; and*
- c) *contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.*

Section 32(2) of the RMA states that the assessment of efficiency and effectiveness in 32(1)(b)(ii) must:

- a) *identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—*
  - i. *economic growth that are anticipated to be provided or reduced; and*
  - ii. *employment that are anticipated to be provided or reduced; and*
- b) *if practicable, quantify the benefits and costs referred to in paragraph(a); and*
- c) *assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.*

Section 32 is provided in full in **Appendix A**.

## 1.6 REPORT STRUCTURE

This evaluation report is structured as follows:

- **Section 2** – Current status and problem statement;
- **Section 3** – Approach to evaluation;
- **Section 4** – Evaluation of policy objective;
- **Section 5** – Assessment of reasonably practicable options;
- **Section 6** – Assessment of the **effectiveness** of the provisions in the NES-PF;
- **Section 7** – Assessment of the **efficiency** of the provisions in the NES-PF; and
- **Section 8** – Conclusion – summary of reasons for deciding on the provisions.

The following appendices are also attached to this evaluation report:

- **Appendix A:** Statutory provisions in the RMA for NES and section 32 evaluations;
- **Appendix B:** Summary of ESC changes; and

- **Appendix C:** Overview of options considered to manage effects on indigenous vegetation and fauna.

The following report should also be read alongside this evaluation:

- Boffa Miskell Limited 2016, '*NES for Plantation Forestry: Evaluation of effectiveness of NES on Environmental Outcomes*', report prepared by Boffa Miskell Limited for Ministry for Primary Industries;
- Ministry for Primary Industries, '*Regulatory Impact Statement – A National Environment Standard for Plantation Forestry*;
- Ministry for Primary Industries, '*Proposed National Environmental Standard for Plantation Forestry: Report on Submissions and Recommended Amendments*'; and.
- NZIER and MWH (2016), '*Plantation forestry economic analysis - Revisions with New Information on Proposed National Environmental Standards*' report to the Ministry for Primary Industries

## 2 CURRENT STATUS AND PROBLEM STATEMENT

### 2.1 OVERVIEW

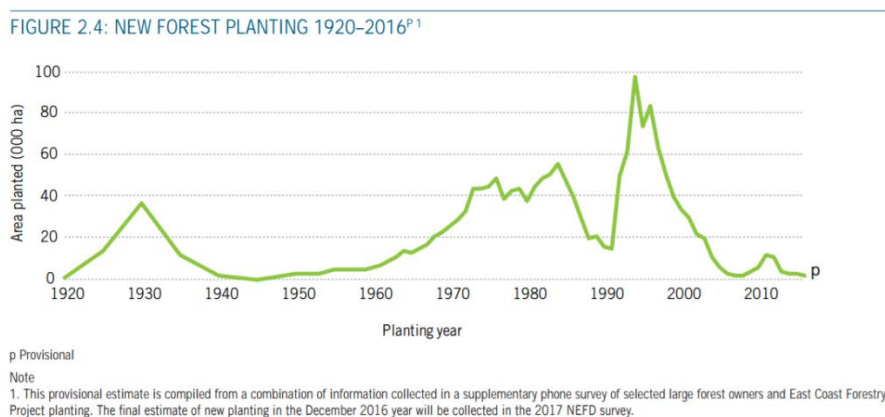
Plantation forestry is a nationally important industry that faces significant uncertainty and variation in the RMA planning framework. This is because forestry activities are subject to a wide range of regional and district plans with varying processes, standards and thresholds, and associated consenting and compliance processes. It is also attributed to the nature of the forestry life cycle which typically lasts around 26-32 years for *Pinus Radiata*. RMA plans are subject to a number of reviews and potential change over this timeframe, including potential constraints on the ability to harvest, which can create significant uncertainty for foresters.

Some variation in RMA plan rules relating to forestry activities is expected to manage local variation and matters of significance. However, analysis has demonstrated that the level of variation in RMA plan rules for forestry activities is unwarranted and that this divergence is increasing<sup>6</sup>. This variation can lead to uncertain environmental outcomes and planning difficulties and inefficiencies for the forest industry, particularly those companies which operate within multiple council boundaries. It also increases the advocacy costs for community groups and environmental Non-Government Organisations (eNGOs) wishing to participate in council planning and consent processes.

### 2.2 STATE OF THE PLANTATION FORESTRY INDUSTRY IN NEW ZEALAND<sup>7</sup>

New Zealand's plantation forest estate covers an estimated 1.70 million hectares of land (as at 1 April 2016 approximately 6.5% of New Zealand's total land area), with Radiata pine being the dominant species (90% of the production area). Plantation forests are distributed across the country with large areas of forestry in the central North Island, which makes up 34 percent of the entire planted forest estate. The second and third largest areas of planted forest are in the Otago/Southland and Northland wood supply regions, respectively.

Figure 1 shows new planting in New Zealand has declined from a peak in the mid-1990s to 3000 hectares in 2015. It is provisionally estimated that 2000 hectares of new planting occurred during the 2016 calendar year. The 2015 calendar year estimate of total planting is 42, 950 hectares, representing a 2 percent decrease on 2014.



**Figure 1:** New forest plantings 1920-2016 (Source: National Exotic Forest Description 2016).

<sup>6</sup> Brown and Company Planning Group, Review of regional plan provisions relating to forestry: Update of 2010 Report. 12 February 2016.

<sup>7</sup> Data in this section has been obtained from the 2016 National Exotic Forest Description survey (prepared by the Ministry for Primary Industries) unless otherwise stated.

Large-scale forest companies (those with 1 000 hectares or more) own or manage 70 percent of the national forest estate. There are approximately 100 forest owners with more than 1 000 hectares of forest. Smaller scale forest owners with forests of less than 1000 hectares made up 30 percent of the national forest estate in 2016. There are approximately 1,580 forest owners with between 40 hectares and 999 hectares of forest. Smaller forest owners also include farm foresters from a range of farm types with approximately, 274,292 hectares of forestry on farms around New Zealand<sup>8</sup>.

The contribution of forestry to New Zealand's economy is significant:

- It has an annual gross income of around \$5 billion;
- It contributes 3% of New Zealand's GDP;
- It directly employs around 20,000 people; and
- Wood products are New Zealand's third largest export earner – behind dairy and meat.

## 2.3 THE ENVIRONMENTAL EFFECTS OF FORESTRY

### 2.3.1 Positive environmental effects

Plantation forestry can have a range of environmental benefits throughout the forest life cycle. The main environmental benefits are summarised below<sup>9</sup>:

- **Indigenous vegetation and flora** – plantation forests can provide a successful habitat for native flora and fauna. Research has found that rich native plant species occur under *Pinus radiata* forests and that indigenous plant diversity increased as the forest aged<sup>10</sup>. A number of native bird species actively use the plantation forest estate, as do reptiles and invertebrates<sup>11</sup>. In terms of aquatic ecosystems, forests provide more shade and hence cooler water temperatures (relative to pastoral land) that allow invertebrates and native fish to flourish more readily than pasture land. Afforestation of pastureland can also lead to aquatic communities and stream conditions more similar to native forest conditions than previously existed<sup>12</sup>. Pine plantations can also support similar stream invertebrate communities to native forests, and highlight the benefit of retaining forested buffers along stream riparian areas to avoid harvesting impacts on stream habitat and invertebrate communities<sup>13</sup>.
- **Water quality** – the levels of nutrients are usually much higher in waters draining from pastoral land than from catchments with indigenous or exotic forestry. Conversion of pasture land into pine plantations generally improves stream water quality by reducing contaminant inputs such as sediments, nutrients, pathogens and agri-chemicals<sup>14</sup>.

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<sup>8</sup> Assure Quality Agribase 2017.

<sup>9</sup> Refer to Boffa Miskell (2016) for a more detailed overview of the environmental effects of plantation forestry.

<sup>10</sup> Ogden J, Braggins J, Stretton K, Anderson S 1997. Plant species richness under *Pinus radiata* stands on the central North Island volcanic plateau, New Zealand. *New Zealand Journal of Ecology* 21: 17-29.

<sup>11</sup> Pawson SM, Ecroyd CE, Seaton R, Shaw WB, Brockerhoff EG 2010. *New Zealand's exotic plantation forests as habitats for threatened indigenous species*. *New Zealand Journal of Ecology* 34: 342-355

<sup>12</sup> Quinn, J. M.; Cooper, A. B.; Davies-Colley, R. J.; Rutherford, J. C.; Williamson, R. B. 1997a: Landuse effects on habitat, periphyton, and benthic invertebrates in Waikato hill country streams. *New Zealand journal of marine and freshwater research* 31: 579-578.

<sup>13</sup> Quinn JM, Boothroyd IKG, Smith B. 2004. *Riparian buffers mitigate effects of pine plantation logging on New Zealand streams: 2. Invertebrate communities*. *Forest Ecology and Management* 191: 129-146.

<sup>14</sup> Fahey B, Duncan M, Quinn J 2004: *Impacts of Forestry*. In: *Freshwaters of New Zealand*. Eds: J Harding, P Mosley, C Pearson and B Sorrell. NZ Hydrological Society and NZ Limnological Society, Christchurch NZ.

- **Soil erosion / sediment retention** – sediment generation that reaches streams occurs less from general forestry practices than other productive land uses, especially pasture use. When compared to pastoral farming, the presence of closed canopy forest significantly reduces the degree of erosion (especially landsliding) during large storm events<sup>15</sup>. For example, in the Pakuratahi forest study in Hawke’s Bay, Fahey and Marden (2006) found that in the absence of a major storm event at, or shortly after harvesting, total suspended sediment yields over a full forest rotation in this type of terrain will be substantially less than those from catchments in pasture<sup>16</sup>. Further, it has been found that afforestation of unstable and degraded parts of the East Coast region of New Zealand, predominantly with exotic pines, has successfully stabilised existing erosion forms and prevented the initiation of new ones<sup>17</sup>.
- **Ecosystem services** – ecosystem services provided by plantation forests include provisioning, regulating, cultural and supporting services. The services range from those that have market values and can be reflected in Gross Domestic Product (i.e., provisioning services such as wood, fibre, biofuel and carbon sequestration) to less tangible services (e.g., avoided erosion, recreation). The supporting services are basically the biological, chemical and physical processes that underlie the provision of the other three groups of services.

### 2.3.2 Potential adverse effects

While plantation forestry has a number of environment benefits, it can also have a range of adverse environment effects and these can be significant at certain stages of the forestry life cycle if appropriate management practices are not implemented. The potential adverse effects associated with the eight main forestry activities are summarised in Table 3 below. This summary has been adapted from the 2015 NES-PF Consultation Document and Boffa Miskell (2016).

**Table 3:** Potential adverse environmental effects of forestry activities in the NES-PF.

Forestry activity	Main potential adverse effects from activity
<b>Afforestation</b>	<ul style="list-style-type: none"> <li>• Landscape and amenity effects, such as shading and modification of outstanding natural landscapes</li> <li>• Wilding pine spread into vulnerable areas which can have adverse effects on landscapes and the productivity of other land uses</li> <li>• Adverse effects on indigenous fauna and flora as a result of disturbance of adjacent areas during planting</li> </ul>
<b>Pruning and thinning-to-waste</b>	<ul style="list-style-type: none"> <li>• Discharge of slash into waterbodies with potential to mobilise and cause downstream impacts on aquatic ecosystems and downstream infrastructure</li> </ul>
<b>Earthworks</b>	<ul style="list-style-type: none"> <li>• Sediment discharge to waterways with associated adverse effects on freshwater quality and aquatic ecosystems</li> <li>• Adverse effects on indigenous fauna and flora as a result of soil disturbance and movement</li> </ul>

<sup>15</sup> Jones H 2008. *Coastal sedimentation: What we know and the information gaps*. Environment Waikato Internal Series TR2008/12. 55 p.

<sup>16</sup> Fahey B, Marden M 2006: *Forestry effects on sediment yield and erosion*. In: The Pakuratahi land use study eds. G Eyles and B Fahey. Report prepared for Hawke’s Bay Regional Council.

<sup>17</sup> Marden M 2012: *Effectiveness of reforestation in erosion mitigation and implications for future sediment yields, East Coast catchments, New Zealand: A review*. New Zealand Geographer 68: 24-35

	<ul style="list-style-type: none"> <li>• Adverse effects on heritage and cultural sites as a result of soil disturbance and movement</li> </ul>
<b><i>River Crossings</i></b>	<ul style="list-style-type: none"> <li>• Sediment discharge to waterways with associated adverse effects on freshwater quality and aquatic ecosystems</li> <li>• Adverse effects on fish passage as a result of poor design or installation of culverts</li> <li>• Adverse effects on river beds during works or use</li> <li>• Adverse effects on downstream infrastructure as a result of altered flow paths</li> </ul>
<b><i>Forest quarrying</i></b>	<ul style="list-style-type: none"> <li>• Sediment discharge to waterways with associated adverse effects on freshwater quality and aquatic ecosystems</li> <li>• Adverse effects on indigenous fauna and flora as a result of ground disturbance, movement of machinery</li> <li>• Effects on landscape and amenity as a result of modification of landforms and noise from heavy machinery</li> </ul>
<b><i>Harvesting</i></b>	<ul style="list-style-type: none"> <li>• Sediment discharge to waterways with associated adverse effects on freshwater quality and aquatic ecosystems</li> <li>• Discharge of slash into waterbodies with potential to mobilise and cause downstream impacts on ecosystems and infrastructure</li> <li>• Adverse effects on indigenous fauna and flora as a result of disturbance from tree extraction</li> <li>• Adverse effects on heritage and cultural sites as a result of ground disturbance and tree extraction</li> </ul>
<b><i>Replanting</i></b>	<ul style="list-style-type: none"> <li>• Wilding pine spread into vulnerable areas which can have adverse effects on landscapes and the productivity of other land uses</li> <li>• Adverse effects on indigenous fauna and flora as a result of disturbance of adjacent areas during replanting</li> </ul>
<b><i>Mechanical land preparation</i></b>	<ul style="list-style-type: none"> <li>• Sediment discharge to waterways with associated adverse effects on freshwater quality and aquatic ecosystems</li> <li>• Adverse effects on indigenous fauna and flora as a result of ground disturbance</li> <li>• Adverse effects on heritage and cultural sites</li> </ul>

## 2.4 CURRENT ISSUES FACING THE PLANTATION FORESTRY INDUSTRY

### 2.4.1 National variation in district and regional plans

Regional and district councils are primarily responsible for managing the environmental effects of forestry under the RMA. The devolved approach under the RMA was designed to allow decision-making to be close to the affected communities so that plans could reflect local environmental conditions and community needs and priorities. Over time this has resulted in a degree of variation in regional and district plan provisions to manage similar activities. While a degree of variation is to be expected to reflect local conditions, research has found examples of unwarranted variation in RMA plan provisions for similar forestry activities<sup>18</sup>. Evidence has also recorded growing divergence in second generation RMA plan provisions to manage forestry activities<sup>19</sup>.

<sup>18</sup> Brown and Pemberton (2010), Brown and Company Planning Group (2016), Boffa Miskell (2016).

<sup>19</sup> Brown and Company Planning Group (2016).

It is the degree of variation that concerns foresters and can create significant uncertainty and inefficiencies for their operations. Further, in many instances this variation does not provide any tangible environmental benefits and does not appear to be in response to specific local conditions or priorities.

Cross-boundary variation in RMA plan provisions is a particular issue for large forest companies as they have a significant level of ownership across regional and district boundaries. For example, more than 300 forest owners (whose land accounts for more than 80% of the national plantation estate) have forests across more than two districts and approximately 200 of these owners manage forests in two or more regions<sup>20</sup>. A further aspect of this issue is that the forestry workforce (e.g. planters, roading contractors, harvesting crews, etc.) typically operate across a number of districts/regions. The high degree of variation in plan provisions across regional/district boundaries can make understanding and complying with these different plan provisions time consuming and complex.

#### 2.4.1.1 Types of variation

Variation in forestry rules comes in many forms as outlined in Table 4 and Table 5. This information on plan variation has been sourced from Brown and Pemberton (2010), Pendly et al (2015), Brown and Company Planning Group (2016), and Boffa Miskell (2016). It is important to note that this is based on the plan provisions at the time those reviews were undertaken and RMA plan provisions are subject to ongoing change.

**Table 4:** Examples of variation in forestry plan provisions.

<p><b>Variation in structure of forestry rules</b></p> <p>Regional and district plan rules controlling forestry are found in very different places in each plan. For example, Greater Wellington, Horizons and Environment Canterbury Regional Councils have consolidated the rules relating to forestry into either a single section of a plan, or in some cases under a single rule. Otago Regional Council takes a different approach with rules set out to manage effects rather than forestry specific rules. This requires foresters to check numerous effects based rules across the whole plan to determine if consent is required</p>	<p><b>Variation in default activity status</b></p> <p>Most councils provide for some or all forestry activities to be permitted, subject to conditions. The default activity status for non-compliance with permitted standards varied widely. For example, the default activity status is controlled in the Greater Wellington region but discretionary in the Horizons region. Note that these two councils share a boundary and have some environmental similarities. Therefore there does not appear to be an obvious reason for why one council requires full discretion and the other is satisfied with providing certainty that consent will be granted through a controlled activity status.</p>
<p><b>Variation in rule thresholds</b></p> <p>In addition to variation in the types of forestry activities controlled by each council, there is also variation in the permitted thresholds for each type of forestry activity, as demonstrated in Table 5 below. It is not simply the rule threshold that varies, but also how the threshold is measured (particularly for earthworks).</p>	<p><b>Variation in types of managed activities</b></p> <p>Not all councils control the same aspects of forestry. For example, in a 2010 survey of regional councils 11 out of 16 councils had forestry set back rules, 13 out of 16 controlled afforestation/replanting, 12 out of 16 had riparian disturbance controls and only four out of 16 controlled indigenous vegetation disturbance. A consequence of this for foresters is that there is generally not a level playing field across council boundaries.</p>

<sup>20</sup> Ministry for Primary Industries (2016), 'Regulatory Impact Statement – A National Environment Standard for Plantation Forestry';



**Table 5:** Permitted activity threshold provision examples – riparian setbacks and extent of earthworks<sup>21</sup>.

Council	Riparian setbacks	Extent of earthworks permitted
Hawkes Bay Region	5m	Nil
Hastings District	Nil	2,000m <sup>3</sup> per annum
Northland Region	5m	Nil
Far North District	Nil	5,000m <sup>3</sup> per site per annum
Bay of Plenty Region	5-40m	Nil
Rotorua District	25m	500m <sup>3</sup> per activity
Gisborne District (Unitary)	Nil	50m <sup>3</sup> in any 3 month period
Horizons Region	5-10m	100m <sup>2</sup> per property per annum
Wellington Region	Nil	1,000m <sup>3</sup> per ha on erosion-prone land
Canterbury Region	5-10m	500m <sup>2</sup> or 10% of area per annum
Otago Region	Nil	Nil
Queenstown Lakes District	7m (restricted earthworks)	2,500m <sup>2</sup> /1,000m <sup>3</sup> per annum per site
Tasman District (Unitary)	10-20m	100-300 linear metres per annum

The variation in earthworks controls identified in Table 5 is consistent with the findings of Pendlay et al (2015) in relation to their review of regional plan provisions for forestry. This review found that five regional plans included controls on the maximum area of exposed soil from earthworks and each had a unique threshold ranging from 500m<sup>2</sup> to 10,000m<sup>2</sup>.

The lack of specific provisions for forestry activities within RMA plans can be a particular issue for foresters and create uncertainty about whether forestry activities are permitted or not. For example, Boffa Miskell's (2016) review of regional and district plans found that rules are often not specifically identified as being applicable to forestry. This was considered to be a limitation as follows:

*“A limitation of controlling activities associated with forestry under generic rules for earthworks and vegetation clearance rules is that this creates the potential for uncertainty or confusion on the part of practitioners as to whether forestry-related activities are regulated, or require resource consent. This is especially the case where plans identify “forestry” as a specific activity with permitted status<sup>22</sup>”.*

In analysing the different types of plan variation, there does not appear to be any clear environmental justification for the various approaches to manage the same forestry activity. For example, it is unclear why some councils consider a five metre riparian setback to be sufficient and other councils have chosen a more conservative 10-40 metre setback, particularly as research indicates that environmental benefits are similar.

<sup>21</sup> Boffa Miskell (2016).

<sup>22</sup> Boffa Miskell (2016), pg.27.

The extent of some of the variation is fairly extreme in some cases. For example, 200m<sup>3</sup> of earthworks over a year is permitted in Gisborne compared to 5,000m<sup>3</sup> of permitted earthworks per site per year in the Far North District. Pendly et al (2015) also found significant variation in regional plan provisions between adjoining regions which did not appear to be linked to environmental conditions.

If this extent of variation cannot clearly be explained by environmental or geographical factors, or by community aspirations/values, then this variation is considered to be unwarranted.

#### 2.4.1.2 *Impact of unwarranted variation*

This variation in regional and district plan provisions generates inefficiencies due to:

- Time required to understand the variability in the way forestry activities are managed in regional and district plans (e.g. through plantation forestry specific rules or through generic rules);
- Delays or operational changes to forestry activities as a result of non-standard approaches to manage the effects of plantation forestry activities;
- Costs to the forestry industry to make submissions on plans and make appeals in an effort to get consistent planning provisions (i.e. plan advocacy costs); and
- Costs to councils to respond to submissions and appeals from the forestry industry.

There are also inefficiencies due to overlapping functions of regional and district councils in relation to a number of matters of relevance to forestry (e.g. erosion control). This can result in duplication of provisions and duplication of effort for councils and foresters with associated inefficiencies.

Feedback from the forestry industry is that they are incurring significant costs on plan advocacy often due to re-litigation of the same resource management issues across the country and over time. Feedback from the forestry industry and some councils also suggests that consenting requirements for forestry activities have increased over time, and it is expected that these are only likely to increase<sup>23</sup>.

#### 2.4.2 **Operational and investment uncertainty**

A further dimension of the problem is the operational uncertainty that forestry companies and contractors face under the RMA planning framework. Operational uncertainty for the forestry industry has three principal elements:

- Changes to RMA plans through the forestry cycle can add uncertainty and inefficiency and lead to a reduction in expected returns (through participating in plan reviews, periodic changes to plan provisions, advocacy and litigation costs);
- Complying with different rule sets across regional and district boundaries creates a more complex operating environment and imposes additional costs (e.g. identifying all the rules applicable to forestry, training staff in different standards, and understanding different procedures for managing the same activity); and

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<sup>23</sup> NZIER (2016).

- Increasing variation (divergence) between council planning controls resulting in uncertainty over the future direction of RMA controls on forestry activities.

Compared to other land uses, plantation forestry has a long-term investment horizon, with *Pinus radiata* typically managed over a rotation of 26 to 32 years. During this period forest owners are likely to face at least three reviews of district and regional plans, along with periodic plan changes. This potential for regulatory change brings both operational and investment risks, particularly if there are significant changes to permitted activity conditions for forestry activities and constraints on the ability to harvest. This is a fundamental issue for forestry owners – there is an expectation that any planted forest can be harvested and any uncertainty regarding this can create significant operational uncertainty.

In any region, understanding the full suite of RMA rules and conditions for forestry generally means identifying and understanding relevant plan content across two or three plans, including general conditions and any combinations of zone provisions, overlays etc. This can create significant uncertainty for foresters simply to understand if they comply with the relevant plan, particularly for those operating in multiple regions/districts<sup>24</sup>.

The effects of operational uncertainty can be seen at a number of levels with implications for:

- The efficiency of forest management and harvesting operations;
- The resources devoted to council planning processes (i.e. plan advocacy costs); and
- The additional staff training required to meet different district and regional standards.

Longer term, operational uncertainty can affect the valuation and returns for forestry holdings, where there is a likelihood of operational constraints that will affect the harvestable volume and the costs of extraction.

### 2.4.3 Uncertain and inconsistent environmental outcomes

RMA plans are designed to manage the risks from forestry activities and reflect local conditions and values. However, evidence has found that there is a high level of variability in RMA plan provisions to manage the effects of forestry activities and this variability is not always targeted to the actual environment risks of these activities.

In addition to operational uncertainty, the principal issue that results from councils adopting different rules and approaches to manage forest activities is the potential for inconsistent environmental outcomes and associated risks. Foresters in neighbouring districts and regions will frequently be working to different methodologies, thresholds and standards when addressing similar environmental effects and risks, including when working in areas with similar geological and physical characteristics.

While this is not always a direct cause – effect relationship, unwarranted variability in plan provisions inevitably creates the potential for uncertain and inconsistent environmental outcomes. This is particularly the case when controls are not targeted to the level of risks present, plan provisions are overly prescriptive, and/or industry best practice is not followed. Overly prescriptive plan provisions can also provide insufficient flexibility for foresters to adopt the most appropriate methods to manage potential adverse environmental effects from their operations.

While industry voluntary codes of practice can encourage good environmental procedures to be followed, the different approaches taken by councils to the management of environmental effects (means that environmental outcomes can be inconsistent).

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<sup>24</sup> Boffa Miskell (2016) *NES for Plantation Forestry: Evaluation of effectiveness of NES on environmental outcomes*. Report prepared for the Ministry for Primary Industries

## 3 APPROACH TO EVALUATION

### 3.1 APPROACH TO EVALUATION

This evaluation of the NES-PF is focused on the following components:

- **Section 4 - An evaluation of the objective of the NES:** The first step of the evaluation is to assess whether the NES-PF policy objective is the most appropriate way to achieve the purpose of the RMA. The assessment is focused on three aspects: relevance, feasibility and acceptability of the NES-PF policy objective.
- **Section 5 - An assessment of other reasonably practical options to achieve the policy objective.** The assessment of options forms part of the assessment to determine that the provisions of the NES-PF are the most appropriate to achieve its objective. This assessment is carried out at two levels:
  - An assessment of first level options – is a NES the most appropriate tool to achieve the policy objective?
  - An assessment of second level options – what is the most appropriate approach for a NES?
- **Section 6 - An assessment of the effectiveness of proposed provisions to achieve the objective.** ‘Effectiveness’ essentially refers to how successful the NES-PF provisions will be to achieve the policy objective. The assessment of effectiveness in this evaluation is focused on whether the NES-PF will achieve two key outcomes:
  - **Maintain or improve environmental outcomes** associated with forestry activities; and
  - **Increase the certainty** in the management of forestry activities.
- **Section 7 - An assessment of the efficiency of the proposed provisions to achieve the policy objective.** The assessment of efficiency in this evaluation is focused on the benefits and costs of the economic, social and cultural effects anticipated from the implementation of the NES-PF provisions consistent with section 32(2)(a) of the RMA.
- **Section 8 – Conclusion.**

### 3.2 SCALE AND SIGNIFICANCE OF THE PROPOSAL

Section 32(1)(c) of the RMA states that the evaluation must contain a level of detail that corresponds to the scale and significance of the effects of the proposal. Scale and significance are therefore key factors influencing the level of detail required for this evaluation.

For the purposes of section 32(1)(c) of the RMA, ‘scale’ essentially refers geographic area covered by the proposal and the size or magnitude of effects anticipated from the proposal. ‘Significance’ refers to the importance or impact of the issue the proposal is intended to respond to, or the significance of the response itself (on the environment and the community). Table 6 below provides an assessment of the scale and significance of the proposal based on some key criteria<sup>25</sup>.

**Table 6:** Assessment of the scale and significance of the NES-PF proposal.

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<sup>25</sup> Adapted from section 4.3, table 3: Ministry for the Environment. 2017. *A guide to section 32 of the Resource Management Act: Incorporating changes as a result of the Resource Legislation Amendment Act 2017*. Wellington: Ministry for the Environment.

Criteria	Assessment
1. Reason for change	<ul style="list-style-type: none"> <li>To achieve national consistency in the management of forestry activities and remove unwarranted variation from regional and district plan rules.</li> <li>To remove unnecessary duplication in regional and district rules for forestry activities which can lead to inefficiencies for councils and foresters.</li> <li>To achieve greater certainty for a significant industry in the New Zealand economy, allowing the industry to make better informed and more reliable investment decisions.</li> <li>To provide more certain environmental outcomes across New Zealand from the management of plantation forestry activities.</li> </ul> <p>The drivers for the proposal are therefore assessed as <b>significant</b>.</p>
2. Degree of shift from status quo	<p>For councils, the degree in shift from status quo will be highly dependent on their existing plan provisions for forestry:</p> <ul style="list-style-type: none"> <li>Councils that currently have rules that typically require consent for common forestry activities will experience a moderate change as the NES-PF is likely to be more permissive than their current provisions.</li> <li>Councils that currently have permissive rules for forestry activities will experience a moderate change as the NES-PF will introduce consent requirements or more comprehensive permitted activity conditions than currently exists. This may require these councils to increase their consenting and compliance monitoring role.</li> </ul> <p>For forest companies, the degree of shift will depend on their existing environmental practices, the size of the operation and the locations they operate in:</p> <ul style="list-style-type: none"> <li>The changes will be less significant for larger forest companies who are familiar with most of the management practices in the NES-PF – many of which they already use which are based on the Environmental Code of Practice (ECOP)<sup>26</sup>. However, the consistency and certainty benefits from a nationally consistent rule set will be greater for these larger companies who often operate in multiple council boundaries.</li> <li>The changes will be more significant for small forest owners as they are generally less familiar with the environmental practice promoted through the ECOP. This will require upskilling of some smaller foresters to understand and comply with the NES-PF.</li> <li>At a national level, the degree of shift from the status quo is considered to be <b>minor-moderate</b>. The NES-PF rules and conditions are based on existing rules, conditions and best management practices already in use, so in many areas there will not be a significant change from the status quo for councils or foresters.</li> </ul>
3. Who and how many will be affected	<ul style="list-style-type: none"> <li>All councils will be affected as they will need to observe and enforce compliance with the NES-PF. However, regional councils will be more affected as the majority of the provisions in the NES-PF are within their functions.</li> <li>All foresters nationwide will be affected, although the biggest impact will be on smaller operators as the NES-PF is likely to raise the bar in terms of the management practices they must comply with to be permitted.</li> <li>The impacts on stakeholder and local communities are expected to be <b>minor</b>. While stakeholder and the public will not be included in decision-making processes for activities permitted by the NES-PF, this is generally</li> </ul>

<sup>26</sup> NZFOA (New Zealand Forest Owners Association) (2007) *New Zealand Environmental Code of Practice for Plantation Forestry*. New Zealand: FITEC

	<p>consistent with the status quo as most forestry activities are permitted in plans and very few are publicly notified. Community groups and eNGOs are likely to benefit from reduced advocacy costs through a nationally consistent set of forestry provisions which are based on good practice and a risk management approach. The public will also experience indirect benefits from the greater certainty and more consistent environmental outcomes anticipated from the NES-PF.</p>
<p><b>4. Degree of impact on, or interest from iwi/Māori</b></p>	<ul style="list-style-type: none"> <li>• Iwi/Māori have diverse interests in the NES-PF. For Māori forest owners, the benefits and costs of the NES-PF are likely to be similar to other forest owners.</li> <li>• The impacts on how culturally significant sites, including wāhi tapu, are managed will be negligible as cultural effects are not within the scope of the NES-PF. As such, they will continue to be managed through regional and district plans in accordance with section 43A(5) of the RMA. Similarly, councils retain some flexibility to have more stringent rules to manage significant waterbodies and receiving coastal environments, including those of particular significance to iwi/Māori.</li> </ul>
<p><b>5. When will the effects occur</b></p>	<ul style="list-style-type: none"> <li>• The effects will occur at commencement and be ongoing.</li> <li>• The impacts will be <b>most significant during the transition period</b> as councils and foresters become familiar with the NES-PF. It is likely to be 6-18 months before the new provisions become embedded in standard RMA and forestry practice nationwide. Guidance, training and other implementation support is proposed to be delivered in this initial phase to help councils and foresters understand the NES-PF and this will be targeted towards those with less capacity or knowledge of the NES-PF.</li> </ul>
<p><b>6. Geographic scale of impacts</b></p>	<ul style="list-style-type: none"> <li>• The NES-PF will apply nationwide so its geographic extent is <b>significant</b>. However, the actual impact of the changes will vary significantly across the country, depending on: <ul style="list-style-type: none"> <li>○ The extent to which the provisions of the NES-PF vary from the current planning regime in that district/region;</li> <li>○ Local geographic factors and environmental conditions; and</li> <li>○ The size and nature of the forestry industry within the district/region. Councils in regions and districts with large areas of existing forests (or the potential for large scale afforestation) are likely to be the most impacted as they will be the authorities dealing with forestry activities (via consent or as permitted activities) on a regular basis.</li> </ul> </li> </ul>
<p><b>7. Type of effect</b></p>	<ul style="list-style-type: none"> <li>• The impact of the proposal is that forestry activities will be managed by a nationally consistent rule set. For foresters, this will <b>reduce the administrative compliance</b> associated with understanding different rules and management approaches across different districts/regions. This will, in turn, enable management and compliance to focus on risk and effect management.</li> <li>• The NES-PF <b>will reduce plan development and advocacy costs</b> for foresters, councils and environmental NGOs as they won't need to re-litigate forestry related provisions through the Schedule 1 process. However, plan advocacy costs will not be entirely eliminated as other provisions may still impact foresters (namely provisions where councils are able to be more stringent than the NES-PF).</li> <li>• The NES-PF will also create an even playing field in terms of the practices foresters need to implement to manage the environmental effects of their activities. This may have costs for some foresters but will also result in <b>environmental improvements</b> in line with industry best practice.</li> </ul>

<b>8. Degree of policy risk or uncertainty</b>	<ul style="list-style-type: none"> <li>• This proposal has been subject to development and refinement over a number of years which has significantly reduced the uncertainty and policy risk associated with the NES-PF.</li> <li>• While there was concern expressed about the permitted activity approach of the NES-PF, this is consistent with most regional and district plans. The variation from the status quo relates to the types of controls and standards associated with those permitted activity standards and the threshold for determining when resource consent is required.</li> <li>• Failure to implement an NES will also lead to ongoing inconsistency and uncertainty in the management of plantation forestry, which has only increased since the NES was first considered in 2010. It is also likely to result in continued efforts to achieve a nationally consistent approach (through an NES or other means) with ongoing costs to Government, industry, councils and other stakeholders.</li> <li>• The level of policy and implementation risk is therefore considered to be <b>minor</b>.</li> </ul>
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Overall, this scale and significance of this proposal is assessed as being **moderate**. Accordingly, a detailed assessment of the proposal is provided in sections 4-7 of this report below.

## 4 EVALUATION OF POLICY OBJECTIVE

### 4.1 INTRODUCTION

The policy objective of the NES-PF is to:

*‘Maintain or improve the environmental outcomes associated with plantation forestry activities nationally; and*

*Increase the efficiency and certainty in the management of plantation forestry activities under the RMA’.*

Section 32(1) requires that the evaluation must examine the extent to which the objective of the proposal is the most appropriate way to achieve the purpose of the RMA. The purpose of the RMA is to promote the sustainable management of natural and physical resources, which means:

*“... managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while—*

- a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- c) avoiding, remedying, or mitigating any adverse effects of activities on the environment”.*

There are also a number of matters of importance in section 6 of the RMA which must be recognised and provided for that are particularly relevant to forestry activities. This includes:

- a) “the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development;*
- b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;*
- c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna”.*

This evaluation focuses on three key aspects of appropriateness: relevance, feasibility and acceptability. The three tables below test the objective against some key criteria under each of these three headings<sup>27</sup>. Note that this assessment is informed by the assessment of the NEPF provisions in sections 6 and 7 of this report as it is not possible to assess some criteria (e.g. feasibility) until after the provisions have been assessed.

### 4.2 EVALUATION OF POLICY OBJECTIVE

#### 4.2.1 Assessment of relevance of NES-PF policy objectives

**Table 7:** Assessment of relevance of the policy objective.

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<sup>27</sup> Adapted from section 4.4, table 4. Ministry for the Environment. 2017. *A guide to section 32 of the Resource Management Act: Incorporating changes as a result of the Resource Legislation Amendment Act 2017*. Wellington: Ministry for the Environment.



Relevance criteria	Assessment of appropriateness
<i>Directly related to a resource management issue</i>	<ul style="list-style-type: none"> <li>• The purpose of the NES-PF directly relates to a number of resource management issues as it seeks to maintain or improve environmental outcomes across a broad range of receiving environments. It includes rules and conditions to manage numerous effects associated with forestry activities, including effects on erosion, freshwater, indigenous vegetation and fauna, the coastal environment, wilding risk, landscapes, and amenity values.</li> <li>• The purpose of the NES-PF is also directly related to a key issue under the current planning regime for forestry – uncertain and inconsistent environmental outcomes which can arise as a result of: <ul style="list-style-type: none"> <li>○ Unwarranted variation in plan provisions to manage the environmental effects from forestry activities; and</li> <li>○ Plan provisions that are not tailored to the level of risk from forestry activities.</li> </ul> </li> <li>• Few plans have specific forestry rules. Some rules for forestry are very prescriptive, and many plans have generic rules not specifically targeted to the effects of forestry<sup>28</sup>. As a consequence, this can result in uncertain and inconsistent environmental outcomes resulting from forestry activities.</li> <li>• The NES-PF will provide a nationally consistent approach to managing the effects of forestry, which will result in more certain environmental outcomes. The NES-PF also takes a risk based approach with more stringent requirements for higher risk activities and locations. While some councils adopt this approach already, the NES-PF will apply this approach in a nationally consistent way. This will provide more consistent environmental outcomes as controls and management practices will be targeted to site specific environmental risks.</li> </ul>
<i>Focused on achieving the purpose of the RMA</i>	<ul style="list-style-type: none"> <li>• The NES-PF policy objective is to maintain or improve environmental outcomes and the provisions in the NES-PF are focused on avoiding, remedying and mitigating adverse environmental effects. For example, the NES-PF is focused on controlling sediment run-off at source and introduces consent requirements for certain forestry activities in high risk erosion areas. The management plans requirements also require environmental risks to be identified and managed. This is consistent with section 5(2)(c) of the RMA.</li> <li>• The controls and conditions in the NES-PF are designed to safeguard the life-supporting capacity of water, land and ecosystems. Additionally, the NES-PF also allows councils to have more stringent rules to protect significant areas of indigenous vegetation and fauna and outstanding natural landscapes and features, and to give effect to their obligations under the NPSFM and NZCPS in relation to freshwater management and the coastal environment. This is consistent with sections 5(2)(b) and 6(a)-(c) of the RMA.</li> <li>• The NES-PF policy objective to maintain or improve environmental outcomes is also consistent with a number of matters in section 7 of the RMA. This includes the efficient use and development of natural and physical resources (section 7(b)), the maintenance and enhancement of amenity values (section 7(c)), the intrinsic value of ecosystems (section 7(d)), and the maintenance and enhancement of the quality of the environment (section 7f)).</li> <li>• The NES-PF policy objective aims to achieve greater certainty and efficiency in the management of forestry activities under the RMA. This will enable foresters to provide for economic wellbeing through improved operational certainty and greater consistency in planning controls. This</li> </ul>

<sup>28</sup> As noted in Pendlay et al (2015) and Boffa Miskell (2016),

	will also result in flow on benefits for the community where forestry is an important part of the local economy. This is consistent with section 5(2) of the RMA.
<i>Assists councils carry out their functions</i>	<ul style="list-style-type: none"> <li>To achieve certainty and efficiency, the NES-PF clarifies the function of regional and district councils in relation to each of the rules and conditions in the NES-PF. This will enable councils to efficiently understand and meet their obligations under the NES-PF and avoid duplication where councils have overlapping functions under the RMA. The functions in the NES-PF have been carefully considered and refined to ensure that it is efficient, appropriate and consistent with section 30 and 31 of the RMA.</li> <li>A set of nationally consistent provisions to manage forestry activities will assist councils to carry out their functions by not having to develop their own plan provisions. This will enable them to focus on their consenting and compliance monitoring role under the NES-PF and on developing non-forestry plan provisions.</li> </ul>

#### 4.2.2 Assessment of Feasibility

**Table 8:** Assessment of feasibility of the policy objective.

<b>Feasibility criteria</b>	<b>Assessment of appropriateness</b>
<i>Acceptable level of uncertainty and risk</i>	<ul style="list-style-type: none"> <li>The NES-PF has been through an extensive development and refinement process since it was originally proposed in 2010. This includes a number of rounds of public consultation and ongoing technical input from the Stakeholder Working Group. This ongoing refinement has significantly reduced the risks and uncertainties associated with the policy objective and associated provisions.</li> <li>The NES-PF policy objective is focused on improving existing practice and environmental performance across the country rather than introducing fundamental change. The provisions to achieve the policy objective are therefore largely based off existing plan rules, consent conditions and industry practices. This means the impacts from the policy objective are relatively well known and will be consistent with existing practices.</li> <li>There are some areas of uncertainty in how the NES-PF will be implemented – such as how stringency (i.e. the application of more stringent provisions) will be exercised by councils and how quickly and effectively smaller forest operators will take up the new management practices. These areas of uncertainty and potential inconsistency are priority areas for implementation support. These areas will also be actively monitored and reviewed after three years of the NES-PF being in force, with subsequent reviews every five years.</li> </ul>
<i>Realistically able to be achieved within council skills, powers and resources</i>	<ul style="list-style-type: none"> <li>The NES-PF policy objective is focused on improving existing practice and environmental performance across the country rather than introducing fundamental change. The associated rules and conditions are also consistent with existing practice in many locations so they will be able to be implemented within council and foresters' existing resources and powers.</li> <li>However, there are new conditions and requirements that councils and forest companies will need to respond to. For some councils and smaller forest companies the changes will be substantial. This will require some upskilling and capacity building in order to effectively transition to the new regime while ensuring that highly skilled expertise is not required to comply with or implement the regulations.</li> <li>Implementation support will be provided to upskill council and industry to the level required to effectively comply with and implement the NES-PF.</li> </ul>

	<p>These efforts will be focused on councils with fewer resources. Implementation support will also be directed at smaller forestry operators that require the most upskilling.</p> <ul style="list-style-type: none"> <li>• The ability for councils to recover costs associated with monitoring activities permitted under the NES-PF through section 43A(8) of the RMA will also ensure that councils have the resources to monitor compliance and enforce the implementation of the NES-PF.</li> </ul>
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### 4.2.3 Assessment of Acceptability

**Table 9:** Assessment of acceptability of the policy objective.

Acceptability	Assessment of appropriateness
<b><i>Consistent with identified iwi/Māori and community outcomes</i></b>	<ul style="list-style-type: none"> <li>• There are limited cultural benefits or costs anticipated from the implementation of the NES-PF. This was reflected in the relatively low level of interest from iwi/Māori in the NES-PF during consultation.</li> <li>• The certainty and efficiency aspects of the policy objective are likely to be consistent with the interests of Māori forest owners as these are likely to be the same as other forest owners' interests. Improving or maintaining environmental outcomes is also likely to be consistent with the wider interests of iwi/Māori in the NES-PF as a means to support the health of the forests, land and waters.</li> <li>• As detailed in the assessment of social benefits and costs in section 7, there was limited interest from the wider community in the NES-PF during consultation. This may be a reflection of the fact that there are limited social benefits and costs anticipated from the NES-PF.</li> <li>• From a community perspective, forestry often occurs in relatively isolated locations with little exposure to the majority of the public. Forestry as an activity also appears to be largely dormant from a public perspective during large portions of the forestry cycle. As a consequence, the community generally has very limited interaction with plantation forestry. However, the community is likely to be generally supportive of improved environmental outcomes. Where forestry is a big part of the local economy, communities are also likely to appreciate the efficiency and certainty benefits sought through the NES-PF.</li> </ul>
<b><i>Will not result in unjustifiably high costs on the community or parts of the community</i></b>	<ul style="list-style-type: none"> <li>• The purpose of the NES-PF is to increase certainty and efficiency for foresters while maintaining or improving environmental outcomes. The NES-PF will primarily impact implementers<sup>29</sup> and users<sup>30</sup> of the regulations - there are very limited impacts anticipated on the wider community or parts of the community within particular regions/districts.</li> <li>• The anticipated costs will only fall on the sectors that directly interact with the NES-PF, i.e. foresters and councils (and to a lesser extent central government). There may be some indirect impacts on the community but these are likely to be positive rather than negative. Refer to section 7 for a more detailed assessment of social benefits and costs anticipated from the NES-PF.</li> </ul> <p>On that basis, the NES-PF will not result in unjustifiably high costs on the community or parts of the community.</p>

<sup>29</sup> Primarily regional councils, unitary authorities, and territorial authorities but central government also plays an important role to support implementation of the NES-PF, and to monitor the implementation and effectiveness of the NES-PF.

<sup>30</sup> Forest owners and operators.

### 4.3 ALTERNATIVES TO POLICY OBJECTIVE

The main alternatives to the NES-PF policy objective are:

- Doing nothing (i.e. allowing the forestry sector to continue to be managed through a variety of regional and district plan provisions);
- A policy objective focused on greater efficiency and certainty only; and
- A policy objective focused on improving environmental outcomes only.

These alternative options are not considered to be the most appropriate to achieve the purpose of the RMA for the following reasons:

- As outlined in section 2 of this report, the status quo has several problems that are not consistent with the RMA's purpose. In particular, a high level of variation in plan provisions for forestry activities creates uncertainty and inefficiency for the forestry industry and can lead to inconsistent and uncertain environmental outcomes.
- A policy objective focused solely on efficiency and certainty would help address a key part of the current problem facing the forestry industry. It would provide a consistent set of forestry provisions that would provide greater certainty and efficiency for foresters. However, it would not be consistent with the balancing requirement in section 5 of the RMA and it would not take advantage of the environmental benefits that plantation forestry can provide. Further, the forestry industry recognises the importance of using sound environmental practices that also maintain forest productivity and profitability, which is evident through the use of voluntary forestry codes of practice (e.g. the ECOP). As such, a policy objective focused only on improved efficiency and certainty is not considered to be appropriate to achieve the purpose of the RMA and is unlikely to be supported by councils or the forestry industry.
- A policy objective focused solely on improving environmental outcomes would not reflect the balancing purpose of the RMA to promote sustainable management and would likely result in an overly prescriptive and risk adverse approach to the management of forestry activities. It would impose significant costs on councils to monitor and enforce rigorous conditions and potentially be prohibitively expensive for foresters to comply with. It will also not address key aspects of the current problem facing the forestry industry or be consistent with economic well-being imperatives in section 5(2). As such, this policy objective is not considered to be appropriate to achieve the purpose of the RMA.

### 4.4 CONCLUSION

In summary, the policy objective of the NES-PF is considered to be the most appropriate way to achieve the purpose of the RMA. The objective is considered to appropriately reflect the balance contained within the RMA's purpose between enabling the use and development of resources and managing the adverse environmental effects of this use and development.

## 5 ASSESSMENT OF REASONABLE PRACTICAL OPTIONS

### 5.1 ASSESSMENT APPROACH

As part of assessing whether the NES-PF provision are the most appropriate to achieve the policy objective, section 32(1)(b)(i) of the RMA requires other reasonably practicable options for achieving the objective to be identified. Case law on section 32 has interpreted that the ‘appropriate’ option to mean suitable but not necessarily the superior method<sup>31</sup>. A number of options have been considered in determining the best way to achieving the policy objective of the NES-PF. The assessment of options has been carried out at two levels:

- Assessment of first level options – is an NES the most appropriate option to achieve the policy objective?
- Assessment of second level options – what is the most appropriate approach for a NES?

### 5.2 ASSESSMENT OF FIRST LEVEL OPTIONS

The first level options that were considered to achieve the NES-PF policy objective are:

- Maintaining the status quo (i.e. regional and district plans continuing to manage forestry activities);
- Non-regulatory approaches (e.g. guidance);
- National planning standards;
- Ministerial directed plan change;
- A national policy statement; and
- A national environmental standard.

To determine the most appropriate tool to achieve the policy objective, these options were assessed against “first order criteria” and “second order criteria”<sup>32</sup>. The first order criteria were focused on the policy option whereas the second order criteria were focused on implementation, efficiency and monitoring.

**Table 10:** Criteria to evaluate reasonable practical options to achieve policy objective.

First order criteria
Improving certainty of nationally consistent environmental outcomes from plantation forestry activities for forestry stakeholders and communities.
Improving certainty of nationally consistent RMA processes and outcomes for plantation forestry stakeholders that achieve the underlying purpose of the RMA.
Improving consistency by removing unwarranted variation between council planning controls for plantation forestry.
Second order criteria
Ease and effectiveness of implementation, including for monitoring and enforcement.
Deliver efficiency gains that are likely to provide benefits that exceed the costs.
Ability to evaluate the effect of the policy.

<sup>31</sup> *Rational Transport Soc Inc v New Zealand Transport Agency* [2012] NZRMA 298 (HC).

<sup>32</sup> Ministry for Primary Industries (2016), ‘Regulatory Impact Statement – A National Environmental Standard for Plantation Forestry’.

### 5.3 NON-REGULATORY INITIATIVES

A non-regulatory approach would be focused on:

- Developing and delivering training on good management practices for forestry activities;
- Guidance aimed at improving the capability of councils and the forestry industry; and
- Tools for an improved, consistent risk assessment as the basis for more consistent permitted activity and consent regime in RMA plans (e.g. erosion risk mapping and associated guidance on when consent should be required).

This option did not meet the first-order criteria. There is no certainty that the good management practices and tools promoted through the guidance and training would be implemented. This option would also not provide impetus for councils to change plans to provide a more consistent planning framework for forestry. This means the development of good practice guidance and its implementation would come at cost to Government but still be unlikely to solve the problem of unwarranted variation in RMA plan provisions for forestry. There would also be limited certainty or consistency benefits for foresters.

The option also failed to meet the second-order criteria as implementation and uptake of the guidance and tools is likely to be variable, will probably deliver limited efficiency gains, and it will be difficult to assess whether these initiatives have any tangible effect on environmental outcomes from forestry activities

While non-regulatory initiatives are not preferred as the total solution to achieve the policy objective, they are a useful and necessary part of the solution. The uptake and consistent interpretation of the regulatory options can be significantly improved through targeted training and guidance material. These initiatives are seen as critical to support the regulatory options below.

### 5.4 NATIONAL POLICY STATEMENT

National Policy Statements (NPS) are instruments issued under section 52(2) of the RMA that state objectives and policies for matters of national significance. A NPS for plantation forestry would provide nationally consistent direction to councils on the specific matters and requirements they must consider when developing plans for managing forestry and when considering the effects of forestry activities.

While this option is likely to create more certainty and consistency over time, it is likely that there will still be variability in how councils interpret and give effect to a NPS to manage forestry activities through their plans. For example, research into the implementation of national instruments under the RMA has found that NPSs are implemented inconsistently by councils both in terms of the approach they take and timeframes, and the existing plan structure and drafting style appear to have the biggest influence on how NPS related provisions are drafted<sup>33</sup>.

Different drafting philosophies and interpretation inconsistencies between councils is likely to remain under this option and continue to result in variable planning approaches. In this respect, a NPS is only likely to be partially effective at achieving consistency and certainty.

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<sup>33</sup> 4Sight Consulting (2016), 'Compatibility of National Direction Instruments with National Planning Template' prepared for the Ministry for the Environment' <http://www.mfe.govt.nz/sites/default/files/media/RMA/Compatibility-of-National-Instruments-with-the-National-Planning-Template-final.pdf>

In addition, plan changes to give effect to a NPS would be over an extended time through the Schedule 1 process and come at a considerable cost to councils, foresters and other stakeholders involved in the process. For example, research has found that NPS are often not given effect to within the required timeframes stipulated in the NPS with most councils preferring to incorporate this into wider plan review when practical for efficiency reasons<sup>34</sup>.

For this reason, a NPS option only partially met first-order criteria and either partially or did not meet second-order criteria.

## 5.5 NATIONAL PLANNING STANDARDS

This option would involve waiting for the national planning standards to be developed and advocating that the standard should include nationally consistent provisions to manage forestry activities. The national planning standards (the Standards) have been introduced as part of the Resource Legislation Amendment Act 2017 (RLAA) (sections 58B–58J of the RMA) and the first set of national planning standards must be approved by 18 April 2019.

However, the timing of the Standards was uncertain until after policy decisions on the NES-PF were made (timing was only confirmed after the RLAA was passed on 18 April 2017). There is also a high level of uncertainty over how much mandatory content the Standards will contain and if and how plantation forestry provisions would be structured and drafted to fit in with the format of the Standards. Using this mechanism to develop specific forestry provisions would therefore take a number of years to develop and implement as drafting would not be able to start until the format of the Standards is finalised. The existing issues of operational uncertainty and inconsistent environmental outcomes would continue during this period.

For this reason, the national planning standards option met first-order criteria but did not meet second-order criteria.

## 5.6 MINISTERIAL DIRECTED PLAN CHANGE

Ministerial directed plans changes made under section 25A of the RMA enable the Minister for the Environment to direct a regional council or a territorial authority to prepare a plan change. If this mechanism was used to achieve national consistency for forestry operations, the Minister would need to direct all district and regional plans to be amended to address the issue of unwarranted variation.

Under this process, councils would make changes on a plan by plan basis in accordance with Schedule 1 of the RMA. Different drafting and interpretation between councils is likely to again result in conditions that vary significantly from the original Ministerial direction. This would undermine the benefits of the integrated set of NES-PF rules and conditions and increase costs and time to advocate and litigate revisions.

For this reason, the ministerial directed plan change met first-order criteria but did not meet second-order criteria.

## 5.7 NATIONAL ENVIRONMENTAL STANDARD

A NES for forestry would establish nationally consistent standards for forestry activities and set out when an activity is permitted and when resource consent is required. An NES would override regional and district plan provisions relating to forestry activities except where it

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<sup>34</sup> Ibid.

allowed plan rules to be more stringent than the NES in accordance with section 43B(1) of the RMA.

A NES met both the first and second-order criteria. As a relatively prescriptive tool, a NES can:

- Provide greater environmental consistency in the environmental effects from forestry activities across New Zealand and all forest sizes (from small scale foresters to corporate foresters);
- Remove unwarranted variation in RMA plan rules for forestry activities without the need for Schedule 1 plan changes in accordance with section 44A of the RMA; and
- Deliver an anticipated net benefit (in terms of environmental and economic performance) as discussed further in sections 6 and 7 of this report.

As such, an NES was identified as the preferred option to achieve the policy objective and address the issues of unwarranted variation in plan provisions, operational uncertainty and uncertain environmental outcomes.

## 5.8 SUMMARY OF FIRST LEVEL OPTIONS

Table 11 provides a summary of the assessment of first level options to achieve the NES-PF policy objective.



**Table 11:** Summary of the assessment of first level options to achieve the NES-PF policy objective

Option	First-order criteria		Second-order criteria		
	Delivers consistency	Improves certainty	Implementation	Efficiency	Monitor impact
<b>National Policy Statement</b>	Potentially	Potentially	Potentially	No	Potentially
	National objectives and policies likely to create a more consistent approach. Cannot exclude ongoing unwarranted variation.	Certainty may increase. Different local interpretations will mean ongoing uncertainty about planning and environmental outcomes. Ongoing plan reviews would maintain uncertainty and re-litigation of issues.	NPSs have long lead times to allow councils to incorporate policies into plans through review processes. Would require separate implementation approach in each council.	Development of policy statement by central government plus development of plan rules within each council likely to result in significant implementation costs.	Monitoring the impacts of an NPS against the status quo in each council area would be onerous.
<b>Ministerial Directed Plan Change</b>	Yes	Yes	No	No	Yes
	Would achieve some consistency but differing council interpretations and drafting may lead to variation between plans.	Can improve operational certainty and certainty of environmental outcomes, depending on how directed plan changes are implemented.	Implementation via Schedule 1 process with each individual council may be onerous.	Ministerial directed plan changes are not likely to be a cost-effective option to direct and implement the plan changes required to address the problem.	Monitoring how plan changes are implemented is possible.
<b>National Standards</b>	Yes	Yes	No	Yes	Yes
	National standards that allowed mandatory content to be prescribed within its structure would remove unwarranted variation and introduce consistent national planning rules.	Would improve certainty about the controls applied to forestry activities. Controls reflecting good practice would increase certainty of environmental outcomes. Nationally coordinated review is more consistent.	Barriers to timely implementation. The tool is not currently available and the timeframes to develop, pass and implement it are uncertain. If implemented, compliance could be monitored.	Costs and benefits might be similar to a NES, as it is also a mechanism to prescribe national planning rules. There is less certainty around these costs and benefits given the stage of development of the proposal.	Impact of national standards for forestry activities could potentially be monitored in several ways. Councils might need to gather data to facilitate this.
<b>National Environmental Standard</b>	Yes	Yes	Yes	Yes	Yes
	Would remove unwarranted variation through the introduction of a single set of prescriptive national planning rules for forestry activities.	Mechanism expressly to provide for standards to maintain a healthy environment. Would improve certainty about controls applied to forestry activities. Will avoid re-litigation of issues, and achieve more certain environmental impacts. Nationally coordinated review provides consistency.	Councils will need to change plans as part of other routine changes to recognise the proposed Standard but provision of rules eases implementation process. Government can monitor whether an NES is put into effect and it can be enforced.	Single set of activity based rules and general conditions with stringency for local site specific needs. Benefits of Proposed Standard are expected to outweigh costs according to independent experts commissioned to review the proposed rules and a cost benefit analysis.	Impacts of proposed Standard compared with the status quo can be monitored in a number of ways. Councils may already assess aspects but may need to gather additional data or develop additional analytical tools to facilitate this.

## 5.9 OVERVIEW OF SECOND LEVEL OPTIONS

Once it was determined that a NES is the most appropriate tool to achieve the policy objective, the next step was to determine the most appropriate underlying approach for a NES.

Under section 43A, a NES may prohibit an activity, allow an activity, state that an activity is permitted activity in the terms and conditions specified in the NES. A NES may also state that a consent is required for an activity and state the matters which control or discretion is reserved or restricted to. Under section 43A(3) of the RMA, a NES must not permitted an activity if the activity has significant adverse effects on the environment.

Based on the powers and restrictions on a NES in the RMA, there are three main underlying approaches for a NES for plantation forestry:

- A permitted activity approach that applies nationally;
- A permitted activity approach that utilises performance based conditions and risk management tools to introduce consent requirements where risk of adverse environment effects exceeds acceptable thresholds; and
- A consent based approach to manage forestry activities nationally.

A summary of these options is provided below.

### 5.9.1 Option 1: A permitted activity approach that applies nationally

This option would permit forestry activities across New Zealand with permitted activity conditions to manage potential adverse effects. Resource consent would only be required when permitted activity conditions cannot be met. This is consistent with many exiting RMA plans which have a permitted activity regime for forestry activities.

Adopting a purely permitted activity approach would mean there is no ability for council rules to be more stringent than the NES regardless of where the forestry activity is located. Alternatively, there could be some allowance for councils to have more stringent rules which would introduce consent requirements in some circumstances.

Under this approach permitted activity conditions would need to be very prescriptive with thresholds set at a conservative level to ensure the NES did not permit activities with significant adverse effects on the environment and be contrary to section 43A(3) of the RMA.

### 5.9.2 Option 2: The NES-PF (permitted activity approach with consent requirements when risk increases)

The NES-PF is based on the following principles:

- Activities should be permitted where it is efficient to do so and the activity will not have significant adverse effects on the environment;
- The level of control for each activity should be directly related to the level of risk of adverse effects from that activity and the location where it takes place. Once the risk increases above an acceptable threshold, consent requirements are introduced; and
- Nationally consistent rules and conditions are predominantly used to remove unwarranted variation while providing for councils to have more stringent rules in specific situations to manage locally significant issues and sensitive receiving environments.

These underlying principles have been a feature of the NES-PF since inception, with some refinement in response to improved information, feedback from consultation and targeted engagement, and further analysis of implementation benefits, costs and risks.

The NES-PF approach is most similar to the current planning framework across New Zealand – generally a permitted activity approach with consent requirements where risk is higher or where the activity takes place within locally significant or sensitive areas. The key difference is that the permitted activity standards and requirements would be nationally consistent and based on established industry best practice.

### **5.9.3 Option 3: A consent based NES**

This option would involve a consent based regime where consent is required for all forestry activities as a controlled or restricted discretionary activity. Controlled activities would include standards and non-compliance of these conditions would default to restricted discretionary. The controlled activity standards could be less prescriptive under this option as the consent process would allow activity and site specific risks to be considered and managed through consent conditions.

## 5.10 ASSESSMENT OF SECOND LEVEL OPTIONS

**Table 12:** Assessment of NES approaches to achieve the policy objective.

Option	Criteria 1: Efficiency	Criteria 2: Certainty	Criteria 3: Environmental outcomes
<b>1. A permitted activity based approach, applied nationally</b>	<p>This is the most efficient option from a forester's perspective as it:</p> <ul style="list-style-type: none"> <li>Provides a consistent rule set nationally, thus enabling industry to standardise practices; and</li> <li>Removes requirement to obtain resource consent and associated time/costs for applicants/councils.</li> </ul> <p>However, as outlined above, the permitted activity conditions and thresholds would need to be conservative and prescriptive under this option to ensure the NES complies with section 43A(3) of the RMA. This could result in inefficiencies through:</p> <ul style="list-style-type: none"> <li>Foresters having to comply with permitted activity conditions that are overly onerous and not tailored to the level of risk. This could have the unintended consequence of actually increasing the need for consent in some circumstances and acting as a disincentive to plant/replant forests;</li> <li>Councils would need to monitor and enforce prescriptive conditions which would require time, effort and cost, and also divert resources from more high priority tasks; and</li> <li>Permitted activity monitoring costs for councils are likely to rise to cover the costs</li> </ul>	<ul style="list-style-type: none"> <li>Provides certainty that the activities associated with plantation forestry can be undertaken without the need for consent, provided permitted activity conditions can be complied with; and</li> <li>Provides certainty as to the methods that will be adopted to manage activities, as these will be standard nationally.</li> </ul>	<p>Generally provides a reasonable level of environmental protection as:</p> <ul style="list-style-type: none"> <li>Many forestry activities are already undertaken by way of permitted activities; and</li> <li>The use of nationally standardised practices will enable operators and councils alike to become more skilled and familiar with requirements, increasing the likelihood of successful implementation.</li> </ul> <p>However, this option:</p> <ul style="list-style-type: none"> <li>Fails to recognise that environmental risk is not equal for all forestry activities and in all environments;</li> <li>May result in foresters needing to do more than necessary to prove compliance with permitted activity conditions in what is otherwise a low risk environment; and</li> <li>May not adequately protect high risk environments (both from a likelihood and consequence perspective) compared to an approach which requires consent in high risk situations to</li> </ul>

	that are normally covered by consent fees, which would partially negate the cost savings gained from a permitted activity regime.		provide greater regulatory scrutiny and input 'up-front'.
<b>2. A permitted activity approach combined with risk management tools to introduce consent requirements for high risk areas</b>	<ul style="list-style-type: none"> <li>• This option also provides a high level of efficiency, consistent with Option 1 above, as plantation forestry activities are permitted in the majority of circumstances and terrains;</li> <li>• This option does introduce additional consent requirements for high risk areas (or situations where more stringent rules have been adopted). However, in these high risk circumstances, it is more efficient and effective to address issues up front to ensure that potential adverse effects are adequately mitigated; and</li> <li>• The rationalisation of permitted activity compliance and consent requirements in the NES-PF across regional and district councils reduces overlap and duplication of effort.</li> </ul>	<ul style="list-style-type: none"> <li>• This option provides a high degree of certainty that plantation forestry activities can be undertaken in most forestry areas and that nationally consistent industry best practice methods are utilised;</li> <li>• Some uncertainty will arise where resource consents are required – either through the ESC or stringency. However, this would be reduced by the use of controlled and restricted discretionary activity status with focused matters of control/discretion. This will ensure regulatory consideration and consent conditions are focused on the potential effects associated with that activity; and</li> <li>• Allowing stringency to protect locally significant areas and values also does not reduce certainty compared to the status quo – it allows existing protections to continue.</li> </ul>	<ul style="list-style-type: none"> <li>• This option provides for more robust and effective management of potential adverse effects; and</li> <li>• It allows for routine plantation forestry activities to be undertaken through a permitted activity regime, utilising consistent management requirements, while at the same time providing for additional regulatory scrutiny in more unique and challenging forestry situations.</li> </ul>
<b>3. A consent based approach to manage forestry activities nationally.</b>	<p>A consent based approach would provide the lowest level of efficiency through:</p> <ul style="list-style-type: none"> <li>• Requiring more resource consents, with associated transactional and time costs; and</li> <li>• The adoption of more 'bespoke' requirements through consent conditions, thus reducing the industry's ability to implement standard management approaches, increasing compliance costs.</li> </ul>	<ul style="list-style-type: none"> <li>• This option will introduce more uncertainty for operators as the outcomes of the consent process will be unknown. Even a controlled activity regime can involve uncertainty about the nature of conditions, particularly if the matters of controls are not specific and focused of the effects of the activity; and</li> <li>• A consent based approach gives councils the most control over forestry activities and is most likely to affect the way in which forestry activities are undertaken. This will create substantial uncertainty in some cases and may also restrict the extent of activities.</li> </ul>	<ul style="list-style-type: none"> <li>• This option may result in better environmental outcomes due to a greater level of regulatory scrutiny; and</li> <li>• It is likely to lead to a more variable set of management requirements and increased complexity of implementation. This may result in more inconsistent on-the-ground implementation by operators and inconsistent environmental outcomes.</li> </ul>

## 5.11 OPTION ASSESSMENT – CONCLUSION

It is appropriate and efficient for rules and conditions managing forestry activities, whether they are in a regional or district plan or a NES, to be ‘risk based’, i.e. where the level of regulation is commensurate to the level of risk. This enables lower risk or more routine activities to be undertaken as permitted activities, thus increasing efficiency, while focusing regulatory effort on higher risk activities. A risk based approach will provide a greater level of proactive oversight and input from councils where needed through a consent process.

### 5.11.1 Option 1 – Summary Assessment

Option 1 involves the utilisation of permitted activity rules to manage all plantation forestry activities, which results in a higher risk profile, with an emphasis on compliance and after-the-event enforcement (should problems arise). This is appropriate in most circumstances and terrain as most forestry activities in these situations are generally well managed if good industry practice is followed.

However, in higher risk areas the standardised procedures required by permitted activity conditions may not be sufficient and could result in adverse environmental effects. As a result, permitted activity conditions and thresholds would need to be prescriptive and conservative under this option to ensure the NES is consistent with section 43A(3) of the RMA and does not permit activities with significant adverse effects. This could actually increase inefficiencies as foresters may need to comply with onerous conditions (or obtain consent) and councils would need to monitor and enforce a complex set of permitted activity conditions. As such, a more permissive approach is not likely to achieve the purpose of the NES-PF to maintain or improve environmental outcomes and it is also unlikely to be the best option in terms of increasing certainty and efficiency in the management of forestry activities under the RMA.

### 5.11.2 Option 3 – Summary Assessment

A consent based approach would provide greater proactive regulatory scrutiny as it sets a lower threshold for requiring resource consents. A consent process has the benefit of allowing the applicant and regulatory authority to both contribute to ensuring that adverse effects are appropriately managed and mitigated.

However, this would increase consenting costs and the complexity of compliance requirements, and the risks associated with the latter. This may perpetuate the status quo, where significant differences in requirements imposed through consent conditions are observed across regions for similar forestry activities. It would also not meet the policy objective of the NES-PF to increase the efficiency and certainty in the management of forestry activities under the RMA.

### 5.11.3 Option 2 – Summary Assessment

Option 2 represents a ‘middle ground’ in that it proposes a predominantly permitted activity regime, supported by performance based conditions and operational requirements. However, it requires consent when risk increases above acceptable thresholds; either for certain forestry activities in higher erosion risk areas or where permitted activities conditions cannot be met. The aim of this approach is to achieve an optimal balance between enabling forestry activities to be undertaken efficiently and providing greater regulatory oversight where risks are highest. Such an approach best achieves the joint purposes of the NES-PF policy objective - maintaining or improving environmental outcomes, while increasing the efficiency and certainty in the management of forestry activities under the RMA.

Inevitably it is a subjective assessment as to whether the right mix of permitted activity and consent requirements has been selected. With respect to the balance of permissiveness and regulatory certainty proposed in the NES-PF, the following is noted:

- The majority of current plans provide a generally permissive approach to most forestry activities.
- The approach has ‘cherry picked’ requirements from existing plan provisions, consent conditions and industry management practices, such that the requirements are consistent with best industry practice for plantation forestry. This should ensure that environmental performance and outcomes under the NES-PF are no less than what occurs under any individual RMA plan, while at the same time improving performance and outcomes in areas where current requirements are lower.
- The NES-PF allows more stringent controls or provisions to be applied in certain circumstances, in particular to give effect to the NPSFM and the NZCPS and to protect significant natural areas and outstanding natural landscapes and features. This allows consent requirements to be applied where councils and their communities have deemed this to be necessary to protect locally significant areas or to meet their obligations under the NPSFM or NZCPS.
- The NES-PF will achieve greater consistency across districts and regions, improving implementation, and has rationalised functions across regional council and territorial authorities to reduce unnecessary duplication. This will result in reduced consenting and compliance costs.

The benefits of the underlying approach of the NES-PF were recognised in the assessment of environmental outcomes prepared by Boffa Miskell (2016) which concluded that:

*“The permitted activity provisions of the NES-PF require appropriate, best-practice conventional plantation management practices to be applied and allows for additional stringency to be applied where appropriate. This overall approach effectively ensures that no significant residual effects arise from activities that are permitted. The NES-PF limits the requirement for resource consent to the most severe end of the risk (of environmental effects) continuum. The basis for this requirement is evidence-based where the effects of an activity cannot necessarily be avoided or mitigated using conventional plantation management practices.*

*The NES-PF generally deals with non-site-specific effects, most notably erosion and sediment generation induced by forest clearance, and consequently does not include any site-bound overlays. Thus the NES leaves site-specific matters to be addressed by plan rules and those plan rules deal with these effects.”*

## 6 ASSESSMENT OF EFFECTIVENESS OF THE PROVISIONS

### 6.1 EFFECTIVENESS ASSESSMENT

Section 32(1)(b)(ii) of the RMA requires an assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the proposal. This section provides an assessment of **effectiveness** of the provisions (rules and conditions) in the NES-PF and section 7 of this report provides an assessment of the **efficiency** of the NES-PF provisions.

For the purposes of section 32, '*effectiveness*' refers to the ability of a provision to meet the desired outcome or result. The fundamental question to assess effectiveness is whether the provisions will achieve the outcomes sought. The assessment of effectiveness is therefore focused on whether the NES-PF provisions will achieve two key outcomes:

1. **Maintain or improve environmental outcomes** associated with managing forestry activities under the RMA; and
2. **Increase certainty** in the management of forestry activities.

Rather than assess the environmental effects of individual forestry activities regulated under the NES-PF, this assessment takes a holistic approach to evaluate the effectiveness of the NES-PF provisions to manage the key effects and issues associated with forestry activities. Specifically, it considers the effects of the NES-PF on:

- Erosion;
- Freshwater;
- Indigenous vegetation and fauna;
- The coastal environment;
- Wilding conifer spread risk;
- Landscape values; and
- Amenity values.

It should be noted that there is a high degree of overlap between some of these effects and management responses (e.g. freshwater quality and indigenous aquatic species, erosion and sedimentation) and this is reflected in the assessment below.

The assessment of effectiveness of the NES-PF provisions is based on a comparative assessment of the NES-PF compared to status quo (i.e. existing regional and district plan provisions for plantation forestry activities). This is consistent with the methodology adopted by Boffa Miskell (2016) which compared the NES-PF rules and conditions with forestry related regional and district plan provisions in nine regions<sup>35</sup>.

This assessment does not quantify environmental benefits and costs as there are some inherent difficulties and large uncertainties associated with this. For example, the Cost Benefit Analysis (CBA) of the NES-PF undertaken by NZIER (2016) concluded that there would be limited benefit in quantifying environmental effects due to the lack of data, the nature of changes in NES-PF, and site specific nature of forestry operations<sup>36</sup>. Similarly, the environmental impact assessment of the NES-PF undertaken by Scion (2015) did attempt to quantify some environmental benefits and costs but noted that the values provided are indicative rather than definite and only provide an

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<sup>35</sup> Northland, Bay of Plenty, Gisborne, Hawke's Bay, Greater Wellington, Otago, Canterbury, Tasman and Manawatu- Whanganui.

<sup>36</sup> NZIER (2016).



order of magnitude of the potential benefits. The Environment Court has also confirmed that quantifying environmental impacts is challenging and limited for certain environmental issues, including Part 2 matters, and should not be a requirement<sup>37</sup>.

Therefore this evaluation is focused on whether the proposed provisions will result in improved or maintained environmental outcomes through assessing the likely environmental benefits, costs, limitations and risks. If this is achieved at a national level, then the provisions will be effective in achieving this component of the NES-PF policy objective.

## 6.2 ASSESSMENT OF EFFECTS ON EROSION

Accelerated erosion and associated sedimentation from plantation forestry was a key consideration in the development of the NES-PF. Erosion is a natural process and afforestation is generally beneficial in reducing erosion and therefore the quantity of sediment reaching waterbodies<sup>38</sup>. This is achieved through improved soil stability, and protection for smaller non-forest species that also increase soil stability and help to trap mobile sediment

However, at certain stages of the forestry cycle forestry activities have the potential to contribute to accelerated erosion, with the greatest potential for adverse effects occurring in the ‘window of vulnerability’<sup>39</sup> following harvesting. This refers to a period of approximately six years after harvesting where soil stability is reduced from the removal of trees and decay of the tree roots and is not fully compensated for several years following planting. Heavy rain during this period following harvesting and during periods of earthworks can lead to sediment mobilisation and subsequent discharge into waterbodies.

### 6.2.1 Summary of provisions in NES-PF

The NES-PF provisions to manage erosion and accelerated sedimentation has two key components:

- The Erosion Susceptibility Classification (ESC) as a risk management tool to identify areas of high erosion risk; and
- Performance based permitted activity conditions and management plan requirements focused on controlling erosion at source.

#### **The Erosion Susceptibility Classification**

A key component of the NES-PF is the Erosion Susceptibility Classification (ESC) tool, which provides a means of assessing land to determine erosion risk in different landscapes as a basis for applying appropriate levels of control, including requiring resource consent for activities on some high risk ESC land.

During public consultation on the NES-PF in 2015, concerns were raised with the ESC in relation to its level of precision in identifying risks, particularly on steepland forests at an operational scale. Concerns were also raised that the ESC would permit forestry activities on highly erosion prone land within the Orange Zone, increasing the potential for significant adverse effects to arise from higher risk forestry activities on this land.

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<sup>37</sup> In *Minister of Conservation v Otago Regional Council* C071/2002, the Court stated that economic analysis is limited in cases where the Court is evaluating interests such as habitat, landscape and amenity use. In *Meridian Energy Ltd v Central Otago DC* [2010] NZRMA (HC), the Court stated it would be difficult, if not impossible, to express some of the criteria in Part 2 of the Act in quantitative terms, and there is no provision for such assessment to be expressed in dollar terms

<sup>38</sup> Boffa Miskell (2016, pg 9).

<sup>39</sup> Phillips, C. and L.Basher (2012), ‘*Plantation Forest Harvesting and Landscape Response – What We Know and What We Need to Know*’, New Zealand Journal of Forestry, 2012, Vol 56, No.4

The ESC has subsequently been updated and refined in 2016 and 2017. These changes are summarised in **Appendix B** in terms of the key changes and area affected within each ESC zone. Table 13 below also outlines areas of land within each of the four ESC zones and identifies where the ESC risk rating introduces requirement for resource consent under the NES-PF.

Table 13: Erosion Susceptibility Classification Zones

ESC Zone	Green Zone	Yellow Zone	Orange Zone	Red zone
Risk rating	Low risk	Moderate risk	High risk	Very high risk
Area of land (000 ha)	11,259	5,781	3,621	5,002
Consent requirement	N/A	N/A	Earthworks (slope > 25 degrees) Quarrying (earthflow terrain) Mechanical land preparation <sup>40</sup>	Afforestation <sup>41</sup> Earthworks Quarrying Harvesting Mechanical land preparation <sup>42</sup>

The key change in 2016 was the reclassification of approximately 200,000 hectares of higher risk Orange Zone land to Red Zone. The implication of this reclassification is that certain forestry activities (harvesting, earthworks, forest quarrying and mechanical land preparation) on this land will be subject to a resource consent process. The consent requirements on Red Zone land also extend to afforestation over 2ha, which ensures that the assessment of potential effects can be “front-loaded” at the time of planting to avoid future legacy issues. This change responded to local concerns expressed in:

- Gisborne and Hawke’s Bay – reclassification means resource consent will be required for activities most at risk of slash and debris mobilisation; and
- Marlborough, Tasman, Coromandel and Northland – reclassification means resource consent will be required on land with the potential to generate sediment discharges to nearby estuarine and coastal environments.

As outlined further in section 7, the forestry industry recognised the need for these changes on the basis that the ESC Red Zone is marginal land for production forestry and there should be greater regulatory oversight for certain forestry activities on this land. They also considered that any additional consenting requirements as a result of these changes would be a minor cost of the NES-PF compared to the improved ability to operate elsewhere, and the significant certainty and consistency benefits provided by the NES-PF.

Further refinements were subsequently made to the ESC in March 2017. These changes were focused on:

- Refining the ESC for the High and Very High classes (Orange and Red Zones);
- Extending the classification over the whole of mainland New Zealand to include publicly held land that was previously unclassified;
- Improving the mapping precision along river margins, lakes and the coast; and

<sup>40</sup> The land slope must be 25 degrees or more, the land must be subsoil affected, and the preparation area greater than 2 ha in a calendar year.

<sup>41</sup> Note for afforestation and other activities such as harvesting, there is an allowance for small scale activities (less than 2 ha) to be undertaken without resource consent.

<sup>42</sup> As above.

- Creating overlays to identify specific erosion processes on all class 8e land based on a targeted analysis of the reclassified terrains<sup>43</sup>.

These changes resulted in a significant increase in Red Zone land (approximately 4.5 million ha). However, much of this land is in the Southern Alps and/or is DOC estate, which is not land that can be used for commercial plantation forestry.

A more significant change in April- June 2017 for future forestry was that some of the units that had been reclassified to Very High Risk (Red Zone) in March 2017 were reconsidered. This was because the screening system had inadvertently classified some land units as Very High risk rather than High risk (i.e. they had been over-risked). This resulted in these units being reassessed in April-June 2017 and some put back into the High Risk units (Orange Zone). This reclassification of land from the ESC Red to ESC Orange Zone occurred in the following regions: Northland, Waikato, Gisborne, Southern Hawkes Bay, Wairarapa, Taranaki, and Manawatu.

Importantly, approximately 250,000 hectares of land within the Manawatu-Whanganui region that was ESC Red Zone in 2016 has been reclassified as ESC Orange Zone and plantation forestry is seen as the most appropriate land use on this land. This has implications for the cost-benefit analysis as outlined further in section 7.2 of this report.

Figure 2 below is a map of ESC land based on the March 2017 revisions.

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<sup>43</sup> Landcare Research (2017), '*Erosion Susceptibility Classification for the NES for Plantation Forestry*', prepared for Ministry of Primary Industries.

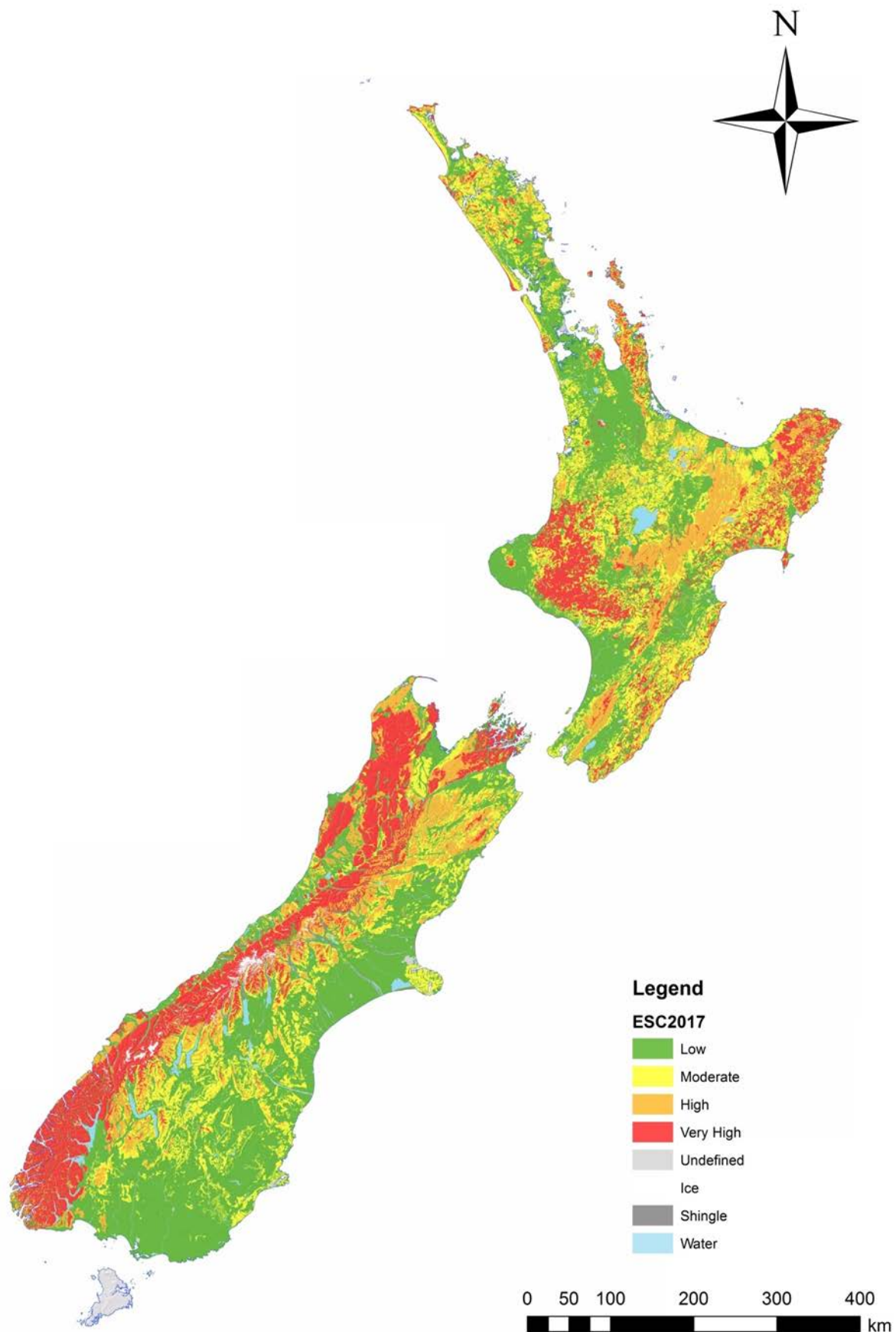


Figure 2: Map of revised 2017 ESC (source: Landcare Research).

### **Permitted activity conditions to manage erosion at source**

The other key component of the NES-PF to manage accelerated erosion are permitted activity conditions and requirements focused on managing erosion at source. This includes:

- Permitted activity conditions aimed at minimising erosion, and encouraging sediment retention. For example, there are permitted activity conditions to install sediment control measures and stabilise exposed areas or soil; and
- Requirements for earthworks, harvesting and quarrying management plans to be prepared and adhered to which are based on industry best management practice. These plans are also expected to be focused on managing erosion at source with requirements to outline the sediment control measures that will be used to stabilise works.

Boffa Miskell (2016), assessed the effectiveness of the NES-PF provisions to manage erosion against existing provisions in a selection of RMA plans in nine regions. The assessment concluded that the NES-PF provisions for plantation forestry activities associated with erosion “*work well to minimise effects*” and were given the highest grading in this assessment. In comparison, the effectiveness of provisions in existing plans were often given a lower “*provisions manage effects to a 'tolerance threshold'*” rating. This indicates that the provisions in the NES-PF to manage erosion generally represent a high level of best practice compared to the status quo.

### 6.2.2 Summary assessment of effects on erosion risk

Table 14 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects associated with erosion risk compared to the status quo. The benefits identified are where the NES-PF is expected to maintain or improve environmental outcomes and reduce costs. The limitations, costs and risks indicate the areas where the effects of the NES-PF on erosion are less certain, or there is potential for an increase in adverse environmental effects.

**Table 14:** Comparative assessments of effects of NES-PF on erosion and sedimentation.

Assessment of effects on erosion from the NES-PF provisions	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Boffa Miskell (2016) noted that applying the ESC nationally will resolve a key area of inconsistency in regional and district plans. In particular, it enables the erosion potential of land to be considered at the time of afforestation. This enables the future effects of forestry activities to be anticipated and more effectively controlled compared to plans which rely on harvest management and don't allow site specific risks to be considered at the time of planting. This is an <b>improvement in environmental outcomes</b> compared to the status quo.</li> <li>• The ESC provides a new tool to assess erosion risk and a centralised level of information for foresters and councils that many have not had access to inform their decision-making. This increased information should result in better decisions and, therefore, <b>improved environmental outcomes</b>.</li> <li>• Managing activities through resource consents in higher risk erosion areas (identified through the ESC) will <b>assist in mitigating risk</b> in these areas through up-front regulatory oversight and input. Currently RMA plans are inconsistent in how they manage forestry</li> </ul>	<p><b>Limitations, costs and risks:</b></p> <ul style="list-style-type: none"> <li>• A permissive regime, albeit one that adopts industry standard techniques, relies on effective implementation and, where necessary, compliance and enforcement. The <b>risk of non-compliance</b> is mitigated by the use of industry best practice, management plan requirements, and a requirement to provide councils with notice at the commencement of the individual forestry activities. A permissive regime is also already the status quo across most of the country, so the associated risk of non-compliance risk in these areas will not increase.</li> <li>• The NES-PF will result in a change to operational and management requirements and it may take some time for industry and councils to become familiar with the requirements. This is <b>mitigated by the use of best management practice and management plan requirements</b>, which should be familiar to most forestry operators. A targeted implementation package will also help those less familiar with the NES-PF management practices understand the new requirements.</li> </ul>

<p>activities in high risk erosion areas and NES-PF will ensure the environmental risks from forestry activities on erosion prone land are considered and managed in a nationally consistent manner.</p> <ul style="list-style-type: none"> <li>• The NES-PF applies best practice erosion and sediment controls uniformly across New Zealand with a focus on controlling erosion at source. This includes permitted activity conditions for sediment control measures to be installed and management plan requirements to detail the methods that will be used to manage erosion effects. This increased focus on managing erosion at source is consistent with best practice throughout New Zealand will improve performance and <b>reduce adverse effects</b> where current practice is lower.</li> <li>• The use of standardised techniques, consistent in all areas, is likely to improve industry familiarity with the NES-PF requirements in relation to erosion. Increased familiarity with NES-PF provisions will improve their implementation nationally, thus <b>reducing risks</b> and <b>improving outcomes</b>.</li> </ul>	
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### 6.2.3 Other options considered

The NES-PF has adopted a generally permissive approach with the ESC a key risk based tool to determine when consent is required for forestry on high risk land. An alternative to the ESC is not incorporating a risk based tool within the NES-PF to assess erosion risk and completely relying on either a permitted activity approach or consent based regime. The benefits and costs associated with these alternative approaches are discussed in section 5 of this report and it was demonstrated that the underlying approach to the NES-PF provides the best balance to achieve both components of the NES-PF policy objective and is therefore the most appropriate approach.

## 6.3 ASSESSMENT OF EFFECTS ON FRESHWATER

Plantation forestry can result in beneficial effects on freshwater quality and aquatic ecosystems, particularly when compared to other productive land uses. For example, research into the effects of plantation forestry has found that afforestation of pasture land significantly improved a range of water quality attributes such as stream temperature, nutrient and sediment concentrations, and microbial concentrations within 4-6 years of planting<sup>44</sup>. Afforestation can also reverse the effects of pasture development on aquatic species, and create stream conditions more similar to native forest conditions<sup>45</sup>. Slash in streams can provide habitat for aquatic species<sup>46</sup>.

Conversely, sedimentation and the deposition of excessive slash from forestry activities can have adverse effects on freshwater bodies and aquatic communities. Sediment discharges generally have the greatest potential for adverse effects on freshwater quality. Sediment discharges can both affect the diversity and composition of biotic communities but also affect the aesthetic and recreational value of waterbodies<sup>47</sup>. Forestry harvesting also has the potential to affect stream

<sup>44</sup> Baillie and Nearly (2015) in Boffa Miskell (2016).

<sup>45</sup> Quin et al. 1997 in Boffa Miskell (2016)

<sup>46</sup> Baille, B, Collier, K, Nagels, J (2005), 'Effects of forest harvesting and woody debris removal on two Northland streams, New Zealand', New Zealand Journal of Marine and Freshwater Research.

<sup>47</sup> Boffa Miskell (2016).

banks and cause erosion where it is undertaken close to rivers/streams or where logs are hauled out across streams. Excessive slash in waterways can accumulate and mobilise in heavy rains, and has the potential to damage downstream infrastructure and ecosystems.

### 6.3.1 Summary of provisions in NES-PF

The NES-PF includes a range of rules and conditions to manage the effects of forestry activities on freshwater, which have been subject to ongoing refinement through consultation and policy analysis.

An important component of the NES-PF to manage effects on freshwater quality and aquatic ecosystems are the permitted activity conditions requiring setbacks from waterbodies (perennial rivers, wetland greater than 0.25ha, lakes greater than 0.25ha, outstanding waterbodies and waterbodies subject to water conservation orders). These conditions apply to afforestation, earthworks, forest quarrying, harvesting, mechanical land preparation and replanting and limit these activities within those setbacks with the exception of minor or maintenance works. For example, only small scale or maintenance earthworks can occur within the setbacks to waterways as a permitted activity and there are controls on harvesting machinery and operations within these setbacks. The replanting conditions also include setback conditions to ensure that any larger setbacks that have been established as a result of plan rules, consent conditions, or by voluntarily means are maintained under the NES-PF. This also effectively means subsequent forestry activities do not occur within those larger setbacks. The purpose and environmental benefits of the regional<sup>48</sup> setbacks in the NES-PF is outlined in more detail in Table 15.

**Table 15:** Overview of regional setbacks in the NES-PF.

#### **Overview of regional setbacks in the NES-PF**

*The NES-PF includes both regional and territorial setback provisions. This overview focuses on regional setback provisions as the territorial setback provisions have been considered in the section on amenity effects.*

*The NPSPF includes a range of setbacks for forestry activities. The purpose of the setback provisions is to create riparian buffers within plantation forests which can provide benefits to aquatic and terrestrial ecosystems and water quality throughout the forestry life-cycle. These benefits are summarised below.*

*The principle of controlling erosion at the source is integral to the rules and risk management framework of the NES-PF. Wherever possible soil erosion and sedimentation from earthworks should be controlled at source to minimise the amount of suspended sediment in concentrated flows that could directly enter waterways. However, riparian buffers may reduce sediment generation within the riparian zone (bank erosion) or act as a filter of runoff reducing sediment yield. Further, setbacks can reduce ground disturbance in the riparian zone, including reducing stream bank erosion.*

*Setbacks play an important role in providing habitat of freshwater aquatic ecosystems and associated terrestrial species. Setbacks can substantially moderate air temperatures as compared to a treeless environment and previous studies indicate that even narrow forested buffers can maintain cool riparian air temperatures that enhance riparian habitat quality for adult insects and other terrestrial organisms. They also create positive effects for terrestrial ecosystems through maintaining shade that reduces temperature increases and changes in primary production and periphyton biomass. The retention of an intact vegetated riparian buffer during harvest operations is widely considered effective at maintaining low light regimes (shade), channel bank stability and maintaining biotic communities. They can also provide ecologically important corridors and linkages, as well as habitat refuge during disturbance activities. There is an important linkage between riparian vegetation as habitat for terrestrial insects found in the diet of native and introduced fish in freshwater aquatic environments in New Zealand.*

*In summary, the setback provisions in the NPSFM provide an important function for maintaining water quality, biodiversity corridors, buffering effects, and providing habitat for freshwater aquatic ecosystems within forested areas.*

<sup>48</sup> There are also district setbacks in the NES-PF primarily aimed at managing adverse effects on adjacent properties and on amenity values. These are discussed in more detail in the assessment of effects of NES-PF on amenity values in

In addition to setbacks, the NES-PF includes the following provisions aimed at managing effects of forestry activities on freshwater:

- Performance based permitted activity conditions for managing sediment runoff which are focused on managing sediment at source. The NES-PF also includes permitted activity standards to ensure sediment discharges do not exceed water quality standards in receiving environments;
- Permitted activity conditions to manage the discharge and deposition of slash to mitigate adverse effects on receiving waterbodies;
- Management plan requirements for earthworks, quarrying and harvesting that require effects on freshwater to be considered and methods to manage effects on freshwater to be documented and followed; and
- Ability for rules to be more stringent than the NES-PF where the rule gives effect to a freshwater objective developed to give effect to the NPSFM. The interaction with the NPSFM has been a key consideration in developing the NES-PF, which is described in Table 16 below and in the assessment of other options in section 6.3.3 of this report.

The NES-PF also includes a number of conditions and controls to manage effects of forestry activities on fish spawning and passage which is an important aspect of the NES-PF to manage effects on aquatic ecosystems. However, this has been assessed in the context of effects on indigenous fauna in section 6.4 below.

**Table 16:** Overview of NPSFM and its interaction with the NES-PF.

<p><b>Overview of the NPSFM</b></p> <p><i>The NPSFM, first introduced in 2011, is a part of the Government's ongoing reforms to improve the way that fresh water is managed, in recognition of its importance to New Zealanders.</i></p> <p><i>In 2014 the Government substantially amended the NPSFM, including the addition of a National Objectives Framework (NOF) as recommended by the Land and Water Forum. The NOF established compulsory national values for freshwater and included a set of national bottom lines for attributes of water quality relevant to the national values such as total phosphorus, nitrate and ammonia toxicity, dissolved oxygen and a faecal indicator (E.coli). The NOF also introduced a nationally consistent process to establish freshwater objectives for freshwater management units within a region.</i></p> <p><i>The NPSFM provides national direction on how fresh water should be managed by providing overarching objectives in respect of water quality and quantity, integrated management and tāngata whenua roles and interests. It also details the process for giving effect to the NOF and expectations for monitoring and reporting.</i></p> <p><i>Giving effect to the NPSFM requires councils to set objectives and limits for fresh water quality and quantity, and to ensure that land use and water are managed in an integrated way. Furthermore, water quality must also be maintained or improved within a region in order to give effect to the NPSFM.</i></p> <p><i>The primary responsibility for implementing the NPSFM lies with regional councils, who must give effect to the NPSFM in their planning documents, report on their progress, and fully implement it no later than 31 December 2025.</i></p> <p><b>Interaction between NPSFM and NES-PF</b></p> <p><i>The important interaction between the NPSFM and NES-PF was recognised when the proposal was first developed and this was reflected in the 2015 Consultation Document. The NES-PF is expected to contribute to improved water quality outcomes and the proposed provisions will generally be sufficient to give effect to the directives in the NPSFM. However, as councils are still in the process of giving effect to the NPSFM, it is not certain that the NES-PF provisions will be sufficient to achieve freshwater objectives set for a particular catchment. Some flexibility was therefore always envisaged to allow councils to have more stringent rules to give effect to the NPSFM to ensure these national instruments do not conflict.</i></p> <p><i>In exercising this flexibility for new rules, councils will be bound by section 32(4) of the RMA which requires councils to evaluate rules that are more stringent than a NES and demonstrate that this is justified in the circumstances of the region. In relation to existing and new rules, it is also expected that</i></p>
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*councils will make it clear where a more stringent plan rule prevails over the NES-PF because it gives effect to a freshwater objective developed to give effect to the NPSFM. This is important to provide certainty to foresters and help avoid implementation issues. Guidance will be developed to help ensure stringency in relation to the NPSFM is exercised in a clear and considered manner consistent with the policy intent.*

Boffa Miskell (2016) specifically considered the effects of the NES-PF on water quality compared to the status quo, noting that the NES-PF has a number of provisions to manage adverse effects of forestry activities on freshwater, including controls on sediment discharges. The ability to be more stringent to give effect to the NES-PF was also recognised as important given that the NPSFM provides a clear agenda from central government for overall improvements in water quality. Boffa Miskell concluded that the combination of NES-PF provisions to manage adverse effects on freshwater bodies and allowance for councils to have more stringent rules to give effect to the NPSFM provides assurance than the NES-PF would appropriately manage adverse effects on freshwater and not permit activities with significant adverse environmental effects.

### 6.3.2 Summary assessment of effects on freshwater

Table 17 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects on freshwater compared to the status quo. The benefits identified are where the NES-PF is expected to maintain or improve environmental outcomes compared to the status quo. The costs, limitations and risks indicate the areas where the effects of the NES-PF on freshwater are less certain, or where there is potential for an increase in adverse environmental effects.

**Table 17:** Comparative assessment of effects of NES-PF on freshwater.

Assessment of effects on freshwater from the NES-PF provisions	
<b>Benefits:</b> <ul style="list-style-type: none"> <li>Boffa Miskell (2016) concluded that <i>“the NES-PF will not result in any significant adverse effects on water quality that are not covered by provisions in the NES or by Council plans”</i><sup>49</sup>.</li> <li>The NES-PF will provide nationally consistent riparian setbacks from waterbodies, which are a proven as an effective method to mitigate adverse effects on freshwater. A 10m setback will provide shade, leaf litter food, insect food, wood, cover for fish and development of moist riparian areas, which will provide benefits for water quality and stream habitats<sup>50</sup>. Riparian buffers also help to reduce sediment generation within this riparian zone. While setbacks are relatively common in council plans and forestry industry practice, nationally consistent setback standards will lead to improved and more certain environmental outcomes in many areas. Once riparian margins are established and protected, this <b>should provide long term environmental benefits</b> to freshwater quality and aquatic ecosystems.</li> </ul>	<b>Limitations, costs and risks:</b> <ul style="list-style-type: none"> <li>The lack of quantitative parameters for assessing ‘conspicuous change in water clarity’ as a permitted activity condition for earthworks, quarrying, harvesting, and mechanical land preparation <b>may create uncertainty as to how this condition should be interpreted</b>. This issue was carefully considered in developing and refining the regulations and a number of options were considered as outlined in section 6.4.3 below.</li> <li>The effectiveness of a number of the permitted activity conditions is dependent on compliance and whether appropriate management practices are implemented. Some foresters (particularly smaller owners) may not be familiar with management practices and controls to mitigate adverse effects on freshwater bodies. Good management practice guidance is being developed to help foresters implement best practice based on site specific factors and risks. This will improve uptake and <b>mitigate risks associated with non-compliance</b>.</li> </ul>

<sup>49</sup> Ibid pg. 28.

<sup>50</sup> Rowe et al 2002 in NZIER (2016).

<ul style="list-style-type: none"> <li>• The NES-PF applies best practice erosion and sediment controls uniformly across New Zealand with a focus on sediment retention at source. This includes permitted activity conditions for sediment control measures to be installed and management plan requirements to detail the methods that will be used to manage sediment discharges. This increased focus on managing sediment discharges at source consistent with best practice throughout New Zealand will improve performance and <b>reduce adverse effects</b> where current practice is lower.</li> <li>• The water quality standards for sediment discharges in the NES-PF provide clear direction on the adverse effects in receiving waterbodies that must be avoided. These are based on the standards in the RMA with the expectation that regional councils will apply more specificity to these standards using their existing practices and guidelines. This will help to <b>maintain or improve water quality</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Additionally, the NES-PF places a significant emphasis on the use of management plans for earthworks, harvesting and forest quarrying. While this is standard practice in many areas, there is a risk that operators will simply utilise the same management plans, rather than customise each plan to site specific circumstances. This is <b>mitigated by the use of Schedule 3 and 4</b>, which specify minimum requirements for management plans.</li> </ul>
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### 6.3.3 Other options considered

Effects on freshwater has been an important consideration in the development of the NES-PF and a number of alternative options were considered. Consideration of alternative options has focused on the interaction of the NES-PF with the NPSFM and incorporating appropriate water quality standards for sediment discharges into the NES-PF. A summary of these alternative approaches and the reasons they were not considered to be the most effective and efficient to achieve the policy objective is provided below.

- **Quantitative water quality parameters:** the NES-PF incorporates qualitative water quality standards for sediment discharges for earthworks, quarrying, harvesting, mechanical land preparation and slash traps, which are based off the water quality standards in section 70 of the RMA<sup>51</sup>. Concerns have been raised that these standards are unclear and will be difficult to enforce due to:
  - The absence of quantifiable standards;
  - The lack of certainty on how to assess conspicuous change and significant adverse effects; and
  - ‘Reasonable mixing’ not being defined in either a spatial or temporal way.

This issue has been closely considered as it is recognised that providing parameters to assess conspicuous change, and time and distance parameters for reasonable mixing would provide greater certainty, assist with implementation and promote consistent and improved environmental outcomes. However, defining numeric water quality standards to apply nationally through the NES-PF is not the most appropriate option at this point of time as:

- Insufficient information is currently available at a national level to set evidence-based standards that could accurately apply to all streams and rivers in New Zealand. Sediment is being considered as an attribute within the National Objective Framework

<sup>51</sup> These conditions state that sediment must be managed to ensure that, after reasonable mixing, it does not give rise to the following effects in receiving waters: any conspicuous change in the colour or visual clarity, the rendering of fresh water unsuitable for consumption by farm animals, and significant adverse effects on aquatic habitat.

(NOF) but there is still significant research that needs to be undertaken as this is a complex issue and there are a range of factors that need to be considered to understand the effects of different sediment discharges on different receiving environments.

- Numeric water quality standards or parameters in the NES-PF may potentially be seen as the permitted baseline for all discharges to water. Given this potential uncertainty, there is a need to have robust science to justify any numeric parameters and/or set these at an overly conservative level which is unlikely to be appropriate in all regions.
- Regional councils have often given further definition and clarity to the water quality standards in section 70 of the RMA through their plans or internal guidelines. In the absence of numeric parameters in the NES-PF, it is assumed that regional councils will continue to use their guidelines and plans to give more clarity to the water quality standards relating to conspicuous changes in water clarity and reasonable mixing zones within their regions.
- ‘Reasonable mixing’ has often been defined with reference to the site specific factors that need to be considered (e.g. width of the river, within 24 hours). While this may be achievable at a regional scale for point source discharges, it is not possible to define a meaningful mixing zone for diffuse discharges, or one that would be applicable to all rivers and other water bodies in New Zealand, without potentially causing significant adverse effects.

Guidance will be provided on the water quality standards in the NES-PF and the implementation of these standards will be monitored to ensure no unintended issues arise. The NES-PF will also be aligned with any future changes to the NPSFM of particular relevance to forestry activities, such as inclusion of sediment as an attribute into the NOF.

- **Constraining stringency to specific provisions within the NPSFM:** to provide greater certainty, consideration was given to constraining stringency to specific provisions in the NPSFM. Options considered include:
  - Limiting the ability to be more stringent to where limits are not being met or to protect significant values of outstanding waterbodies or wetlands (as outlined in the 2015 consultation document); and
  - Limiting the ability to be more stringent to rules that give effect to a freshwater objective established in accordance with Part CA (the NOF process).

While these alternatives may provide more certainty benefits for foresters, they are not the most appropriate options for the following reasons:

- Only allowing stringency to be applied once freshwater limits have been met essentially means that water quality has already been degraded, which conflicts with the directives in section 30(1)((c)(iii) of the RMA and the NPSFM to (at least) maintain water quality. Further, limiting stringency to outstanding waterbodies and significant values of wetlands would not allow councils to manage other waterbodies of value within their region.
- Councils generally look at the NPSFM as an integrated document and give effect to it in an integrated manner. It would therefore be difficult to separate out rules that give effect to particular provisions of the NPSFM and this could lead to complex plan alignment/implementation issues.
- Councils are still progressing through their NPSFM implementation programme which is not due to be complete until 2025. Some councils have not yet progressed through the NOF process outlined in Part CA of the NPSFM and may not complete this process for a number of years, although some councils have made rules under the NPSFM

2011. As a consequence, there was a concern that existing rules to manage water quality would be overridden by the NES-PF even though they give effect to the directives in Objective A1 and A2 of the NPSFM. This was a particular concern for some councils through the exposure draft process.

## 6.4 ASSESSMENT OF EFFECTS ON INDIGENOUS VEGETATION AND FAUNA

Plantation forests can have a number of positive and adverse effects on indigenous vegetation or fauna. Plantation forests provide habitats for terrestrial indigenous species (threatened and non-threatened), and also provide other ecosystem services<sup>52</sup>. Research has found that a variety of indigenous species can be found in plantation forests that will generally not be present in other types of productive land<sup>53</sup>. However, adverse effects on indigenous species and areas of adjacent indigenous vegetation can occur from certain activities (e.g. harvesting, mechanical land preparation) if appropriate management practices are not followed. Plantation forestry activities can also adversely affect indigenous fauna where procedures are not in place to manage such effects.

### 6.4.1 Summary of provisions in NES-PF

The NES-PF includes a range of provisions to manage the effects of forestry activities on indigenous vegetation or fauna. The NES-PF rules and conditions to manage adverse effects on indigenous vegetation and fauna include:

- Setbacks from waterbodies for afforestation, earthworks, forest quarrying, harvesting and mechanical land preparation which limit forestry activities within those setbacks and only allow some minor or essential activities. The replanting conditions include minimum setbacks to waterbodies and conditions to ensure that any larger setbacks that have been established as a result of plan rules, consent conditions, or by voluntarily means are maintained under the NES-PF. This also effectively means subsequent forestry activities also do not occur within those larger setbacks. A more detailed overview of the setbacks in the NES-PF is provided in Table 15 above.
- Setbacks from Significant Natural Areas (SNAs)<sup>54</sup> for afforestation, with any larger setbacks to SNAs established through plan rules, consent conditions or voluntary means maintained for replanting;
- Requirements for earthworks and harvesting management plans to be prepared, which include details of the management practices used to avoid, remedy or mitigate risks during operations. This includes requirements to:
  - Identify SNAs and set out management practices to mitigate effects on these; and
  - Identify operational restrictions to minimise damage to indigenous vegetation.
- The application of a fish spawning indicator to manage the timing of relevant forestry activities, for example river bed disturbance in spawning locations. This tool is intended to avoid adverse effects on fish with high conservation status that are sensitive to disturbance during spawning periods;

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<sup>52</sup> Boffa Miskell (2016).

<sup>53</sup> Seaton et al (2009), Pawson (2005), Brockerhoff etc al. (2008) in MPI (2015), 'A National Environmental Standard for Plantation Forestry – Consultation Document'.

<sup>54</sup> Defined in the NES-PF as “**significant natural area** mean: i) an area of significant indigenous vegetation or significant habitats of indigenous fauna identified in a regional policy statement or a regional or district plan (however described); ii) only includes areas identified in the policy statement or plan, including by through mapping, scheduling, a description of the area, or by using significance criteria.”

- The requirement to provide for up and down stream passage for fish, including through the maintenance of river bed material through the length of any river crossing structure, except where it is confirmed that fish passage is not required;
- Controls on new fords on rivers listed as a habitat for threatened fish or fish spawning;
- Permitted activity conditions that require foresters to develop and comply with procedures to protect nationally critical, or nationally endangered bird species within their forests; and
- Controls on indigenous vegetation clearance, which limit this to when indigenous vegetation:
  - Has grown up within an established forest;
  - Is within an area of failed production forest;
  - Is within a plantation forest that has been harvested within the last five years;
  - Is overgrowing a forestry road or track;
  - Is within or adjacent to an existing forest in same ownership and does not exceed a de minimus threshold (the greater of one hectare or 1.5% of the total area of indigenous vegetation within or adjacent to the plantation forest); or
  - Is ‘incidental damage’ (i.e. where it will allow the ecosystems to readily recover, does not exceed certain thresholds, or does not significantly affect the values of an adjacent SNA).

The NES-PF also allows plan rules to be more stringent than the NES-PF where they protect SNAs. These areas may be identified in plans through mapping, scheduling, or by other means, including using region/district specific significance criteria.

There have also been a number of changes to the NES-PF since public consultation in 2015 to increase the protection for indigenous vegetation and fauna, including:

- Making it clear that vegetation clearance prior to afforestation is not regulated under the NES-PF and continues to be managed through regional and district plans;
- Expanding the list of fauna that fall within the indigenous bird nesting condition to include the Nationally Vulnerable classification<sup>55</sup>, North Island brown kiwi, Eastern falcon, Bush falcon, and North Island weka. The condition has also been refined to focus on avoiding or mitigating adverse effects on those bird species rather than just protecting nesting sites. This will also be supported by guidance on the procedures to be used and information on the location of the species referred to in this condition; and
- Improving the workability and certainty of the indigenous vegetation clearance rule.

Boffa Miskell (2016) specifically considered the effectiveness of the NES-PF in managing biodiversity effects, noting that these site-specific effects are effectively addressed through the range of conditions and requirements in the NES-PF. The Boffa Miskell assessment also gave higher attributes scores to the NES-PF compared to regional and district plans on the basis that the NES-PF highlights the need for foresters to factor in biodiversity considerations and constraints up front when planning for forestry activities.

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<sup>55</sup> The Department of Conservation uses the New Zealand Threat Classification System (NZTCS) to assess the conservation status of species according to the risk of extinction they face within New Zealand. There are three categories of threatened species (Nationally Critical – most severely threatened, facing an immediate high risk of extinction, Nationally Endangered – facing high risk of extinction in the short term, Nationally Vulnerable – facing a risk of extinction in the medium term) and four categories of at risk species (declining, relict, naturally uncommon, recovering).

## 6.4.2 Summary assessment of effects on indigenous vegetation and fauna

Table 19 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects on indigenous vegetation and fauna compared to the status quo. The identified benefits indicate where the NES-PF is expected to maintain or improve environmental outcomes compared to the status quo. The identified costs, limitations and risks indicate the areas where the effects of the NES-PF on indigenous vegetation and fauna are less certain, or there is potential for an increase in adverse effects.

**Table 18:** Assessment of effects of NES-PF on indigenous vegetation and fauna.

Assessment of effects on indigenous vegetation and fauna from the NES-PF provisions	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>The setbacks in the NES-PF are a proven method to effectively protect aquatic and also terrestrial biodiversity (e.g. the habitat corridor alongside streams is both created and subsequently protected by stream setbacks). The NES-PF will require nationally consistent setbacks which is likely to <b>improve environmental outcomes</b> across the country.</li> <li>The NES-PF conditions and management plan requirements mean that effects on terrestrial and aquatic biodiversity are to be proactively considered up front, regardless of whether consent is required. While some existing plan provisions also require this (and is industry best practice), the NES-PF will ensure that these best management practices are implemented nationally, lifting the bar in some areas and raising the performance of some operators. This is likely to <b>improve environmental outcomes</b>.</li> <li>Most plans do not have provisions to manage adverse effects on threatened indigenous bird species whereas the NES-PF includes provisions to manage adverse effects on these species and provides a specific focus on plantation forest ground dwelling or nesting species at risk from plantation forestry. While many forestry operators adopt voluntary practices to protect these species, this is likely to <b>improve environmental outcomes</b> at a national level. This targeted approach focuses on species where sufficient distribution and behavioural information is available to ensure effective procedures can be applied. This aids certainty and efficiency and <b>improves environmental outcomes</b>.</li> <li>Many foresters already implement voluntary practices to protect the expanded list of species, including kiwi and falcons. The additional costs to comply with an expanded threatened bird protection condition would therefore be limited for these foresters. However, there is likely to be an <b>environmental benefit</b> at a national level from addressing the issue in a national regulation rather than relying on voluntary measures</li> </ul>	<p><b>Limitations, costs and risks:</b></p> <ul style="list-style-type: none"> <li>A permitted activity approach, albeit one that adopts industry standard techniques, relies on effective implementation and, where necessary, compliance and enforcement. There is a risk that some permitted activity conditions (e.g. setback distances) will not be adhered to in all instances in the absence of an effective compliance monitoring strategy.</li> <li>The <b>risk of non-compliance</b> is mitigated by the use of industry best practice and requirements for notice to councils at the commencement of certain forestry activities. It will also be mitigated through guidance to help foresters implement best practice based on site specific factors and risks.</li> <li>There is a risk that some forest companies, particularly smaller companies, will not have the capacity or knowledge to comply with some conditions relating to indigenous vegetation and fauna (e.g. SNA identification and identification of rare or threatened bird species). Guidance is proposed on both of these issues to <b>mitigate implementation risk</b>.</li> <li>Allowing stringency to apply to all SNAs regardless of the technique used to define the area provides less certainty to foresters compared to only allowing stringency to apply to mapped SNAs. However, as outlined below and in <b>Appendix C</b>, this was necessary to ensure the NES-PF does not override valid protections and potentially result in significant adverse environmental effects.</li> </ul>

<p>which cannot be enforced and may change or vary.</p> <ul style="list-style-type: none"> <li>• The use of the freshwater fish spawning indicator and conditions pertaining to fish passage for in-stream structures will assist with protecting fish spawning and recruitment for fish with high conservation status and sensitivity to disturbance during spawning and maintaining fish access up and down rivers for spawning. This will <b>maintain and enhance</b> freshwater fish populations.</li> <li>• The NES-PF allows more stringent rules in council plans to prevail over the NES-PF where these relate to the protection of SNAs. As existing protective rules in plans will remain in place regardless of how a council chooses to define these areas – the <b>current environmental outcomes will be maintained</b> under the NES-PF.</li> <li>• Boffa Miskell (2016) notes that the NES-PF includes a range of conditions and the option for more stringent rules to manage effects on biodiversity and also enables councils to have more stringent rules to protect locally significant areas of indigenous vegetation and fauna. On this basis, this assessment concluded that “<i>the NES-PF will not result in any significant adverse effects on biodiversity</i>”<sup>56</sup>.</li> </ul>	
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### 6.4.3 Other options considered

A range of alternative options have been considered to manage effects on indigenous vegetation and fauna through the NES-PF, including:

- Only allowing more stringent rules to prevail over the NES-PF to protect SNAs when the SNA has been mapped;
- Refining the list of species to be protected in the bird nesting general conditions; and
- Requiring a Fauna Management Plan to be prepared for threatened species prior to mechanical land preparation;

These options and their pros and cons are discussed more in **Appendix C**.

## 6.5 ASSESSMENT OF EFFECTS ON THE COASTAL ENVIRONMENT

The main adverse effects from plantation forestry in the coastal environment are on coastal water quality and benthic (seabed) habitats as a result of sedimentation from forestry activities, and debris from forestry slash and pruning activities. Coastal landscape and natural character values of the coastal environment can also be affected by forestry activities although this is considered in relation to effects on landscapes generally – refer to section 6.7 of this report.

<sup>56</sup> Ibid pg. 28.

### 6.5.1 Summary of provisions in NES-PF

In addition to the general conditions focused on controlling erosion/sediment generation at source and slash management, the principal tool to manage effects on the coastal environment in the 2015 NES-PF consultation document was a 30m setback for certain forestry activities (afforestation, earthworks, and mechanical land preparation) to the Coastal Marine Area (CMA). Submitters raised concerns that the 30m CMA setback did not enable effects on the broader coastal environment to be adequately managed. There were also concerns raised that NES-PF did not appropriately address the potential effects of forestry on the coastal environment and was inconsistent with council's obligations to give effect to the NZCPS.

As a consequence, the NES-PF has been refined to better manage effects on the coastal environment. Key changes include:

- Allowing more stringent rules to prevail over the NES-PF to give effect to policies 11, 13, 15 and 22 of the NZCPS. These policies relate to matters in the coastal environment of most relevance to forestry activities: biodiversity (Policy 11), preservation of natural character (Policy 13), natural features and landscapes (Policy 15), and sedimentation (Policy 22).
- Including the effects on the coastal environment as a matter of control or discretion where consent is required for the main forestry activities and general conditions as appropriate. This contrasts to the Indicative Rule Set in the 2015 NES-PF Consultation Document where the matters of control and discretion were largely silent on the coastal environment and were more focused on the effects on freshwater.
- Reclassification of high risk land in the Orange Zone to the Red Zone. The implication for the coastal environment is that the reclassified land (now Red Zone) includes many of the areas where the effects of forestry could have an adverse effect on the coastal receiving environment. For example, the Red Zone consenting regime is now applied to areas with sensitive estuarine and coastal receiving environments in the Marlborough Sounds, Tasman, Coromandel Peninsula and Northland.
- New requirements for quarrying and harvesting machinery to be setback from the CMA.
- A requirement for any larger setbacks to the CMA established through consent conditions, plan provisions or voluntary means to be maintained when replanting.

Other key provisions in the NES-PF to manage effects on coastal waters and the coastal environment include:

- Water quality standards in relation to adverse effects on receiving waters;
- Requirements to manage slash to ensure it is not mobilised during heavy rainfall events and potentially discharged into the coastal environment, and requirements to remove slash from waterbodies to avoid adverse effects on the coastal environment;
- Stabilisation and containment of disturbed soil and spoil; roads, tracks and landing; and
- Management plan requirements (earthworks, quarrying, harvesting), which promote the use of best practice tools to effectively manage the generation and discharge of sediment and the deposition of slash.

### 6.5.2 Summary assessment of effects on coastal environment

Table 20 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects on the coastal environment compared to the status quo. The benefits identified are where the NES-PF is expected to maintain or improve environmental outcomes compared to the status quo. The costs, limitations and risks indicate the areas where the effects of the NES-PF on the coastal environment are less certain, or there is potential for an increase in adverse effects.

**Table 19:** Comparative assessment of effects of NES-PF on coastal environment.



Assessment of effects on the coastal environment from the NES-PF provisions	
<b>Benefits:</b> <ul style="list-style-type: none"> <li>The NES-PF includes performance based standards to manage the adverse effects of activities and associated discharges of sediment discharges and excessive slash on coastal waters and aquatic habitats. This includes specific conditions to manage slash near waterbodies to avoid it being deposited in the receiving coastal environment, and controls to minimise sediment entering waterbodies. This should <b>avoid significant adverse effects</b> in receiving coastal waters.</li> <li>The NES-PF applies best management practices uniformly across New Zealand, thereby improving performance and reducing adverse effects where current practice is lower. This will lead to <b>improved environmental outcomes</b> in relation to the coastal environment at a national level.</li> <li>The NES-PF incorporates nationally consistent setbacks to the CMA for forestry activities to minimise the disturbance of, and effects on coastal margins. These setbacks are more stringent than those found in most plans, allowing for tighter scrutiny of forestry activities through a consent process if these setbacks cannot be met. This is likely to <b>improve environment outcomes</b>.</li> <li>Councils can impose more stringent rules in respect of plantation forestry activities where they are required to give effect to the NZCPS (in relation to biodiversity, natural character, landscapes and sedimentation). This will ensure that <b>existing (or future) protection</b> for these significant issues in the coastal environment and associated environmental outcomes <b>are maintained</b>.</li> <li>The adoption of matters of control and discretion that relate to effects on the coastal environment will <b>ensure that effects on the coastal environment will be addressed</b> where resource consent is required under the NES-PF.</li> <li>Management of bed disturbance activities through the use of the fish spawning indicator will also support fish species that swim in coastal waters. While the fish spawning indicator is predominantly associated with sustaining freshwater fish populations, it <b>mitigates effects on the life-cycle of diadromous fish species</b> by managing access to and from coastal waters.</li> </ul>	<b>Limitations, costs and risks:</b> <ul style="list-style-type: none"> <li>The lack of quantitative parameters for assessing 'conspicuous change in water quality' as a permitted activity condition for earthworks, quarrying, harvesting, mechanical land preparation, and slash traps <b>may create uncertainty as to how this condition should be interpreted</b>. This issue was carefully considered in developing and refined the regulation and a number of options were considered as outlined in section 6.4.3 above.</li> <li>A performance based regime, albeit one that adopts industry standard techniques, relies on effective implementation and, where necessary, compliance and enforcement. The <b>risk of non-compliance is mitigated by the use of industry best practice</b> and requirements for notification of councils at the commencement of the individual forestry activities.</li> <li>The potential for adverse effects on the coastal environment and sedimentation of coastal waters, in the absence of more stringent local rules is a risk. This <b>risk is mitigated by the ability of councils to be more stringent</b> to give effect to policies 11, 13, 15 and 22 of the NZCPS.</li> </ul>

### 6.5.3 Other options considered

Alternative options to manage effects on the coastal environment were largely focused on the areas where councils can be more stringent than the NES-PF and setback distances. A summary of

these alternative approaches and the reasons they are not the most effective and efficient to achieve the policy objective is provided below:

- ***Allowing stringency to recognise and provide for section 6(a) of the RMA:*** Consideration was given to allowing councils to have more stringent rules to give effect to section 6(a) of the RMA. However, the NZCPS provides more specific direction to councils on how to preserve the natural character of the coastal environment compared to the more general wording of section 6(a) of the RMA. Case law (and good practice) confirms that assessments do not need to revert back to Part 2 considerations where these matters are adequately addressed by plans and other policy instruments<sup>57</sup>. The natural character of freshwater bodies and wetlands is also provided for through the ability to be more stringent in relation to the NPSFM.

It is important to limit the ability to be more stringent to specific and exceptional circumstances and avoid potential duplication. In this context, a reference to section 6(a) of the RMA as an area where plan rules may be more stringent than the NES-PF was not considered to be desirable or necessary as it would likely duplicate matters already covered by the NZCPS.

- ***Allowing stringency for all NZCPS provisions:*** The 2015 NES-PF Consultation Document did not enable councils to be more stringent to give effect to their responsibilities under the NZCPS and this attracted concern from local government submitters. A broad reference to the NZCPS (as opposed to referencing specific policies) was preferred by some stakeholders. However, the NZCPS is a comprehensive policy instrument that addresses a wide range of matters and activities which are not relevant to plantation forestry. In the interest of clarifying and constraining the circumstances when plan rules can be more stringent rules than the NES-PF, referring to specific provisions in the NZCPS than are directly relevant to forestry activities is the most effective option.
- ***Increasing the CMA setback:*** Some submitters requested that the 30m setback be increased. However, a review of regional and district plans found that a 30m setback is already greater than most coastal setbacks in district and regional plans<sup>58</sup> and that many plans do not have a setback at all. A 30m CMA setback is also considered to be sufficient to reduce the potential for sedimentation and other debris to enter coastal waters and minimising effects on coastal margins, such as erosion, without imposing undue restrictions on forestry operations. The ability to be more stringent to give effect to certain policies in the NZCPS will also allow councils to impose larger setbacks if necessary within the context of that region or district.

## 6.6 ASSESSMENT OF EFFECTS ON WILDING RISK

The unintended spread of wilding conifers into neighbouring properties or catchments can have adverse effects on landscape values, biodiversity, the productivity of existing land uses and catchment hydrology. It has been estimated that the area affected by wilding conifers, at various densities, is approximately 805,000 ha in the South Island and 300,000 ha in the North Island<sup>59</sup>. The New Zealand Wilding Conifer Management Strategy has recognised the importance of wilding conifer management as follows:

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<sup>57</sup> For example in *R J Davidson Family Trust v Marlborough District Council* [2017] NZHC 52, the High Court held that in most cases there is no need or ability to refer back to Part 2 of the RMA ('Part 2') in determining an application for resource consent because the "relevant provisions of the planning documents, which include the NZCPS, have already given substance to the principles in Part 2".

*R J Davidson Family Trust v Marlborough District Council* [2017] NZHC 52

<sup>58</sup> However, it should be noted that some regional plans include large setbacks in erosion prone areas. Examples include the Gisborne Combined Regional and District Plan (200m in Overlay 3 – High Erosion Prone Land), and Waikato Regional Plan (50m in High Risk Erosion Areas).

<sup>59</sup> SCION (2015).

- Wilding conifers are spreading at around five percent annually and infesting tens of thousands of hectares every year;
- Wilding conifers can be managed but failure to respond to their spread can lead to the costs of control escalating exponentially;
- Wilding conifers can result in the loss of native ecosystems, species extinctions and impact on iconic tourism landscapes;
- Wilding conifers can reduce water yields and increase the risk of wild fires; and
- Wilding conifers can limit future economic land uses and increase the cost and complexity of pasture development and commercial forestry<sup>60</sup>.

#### 6.6.1 Summary of provisions in NES-PF

The adverse effects caused by wilding conifers were recognised when the NES-PF was first developed. In 2011, the Wilding Spread Risk Calculator was incorporated into the permitted activity conditions for afforestation as a mechanism to identify and manage the risk of wilding spread before planting is carried out. The Wilding Spread Risk Calculator is now incorporated into the NES-PF by reference and is available at [www.wildingconifers.org.nz](http://www.wildingconifers.org.nz). The Wilding Spread Risk Calculator requires the following factors to be considered before afforestation is undertaken:

- The type of species being planted;
- How palatable the species is to grazing animals;
- Where the trees are located taking into account the prevailing wind;
- Downwind land use; and
- Proximity to existing forests.

Taking into account these factors, the Wilding Spread Risk Calculator then produces a score and any score of 12 or higher means that resource consent is required for afforestation as a restricted discretionary activity.

Further analysis post-consultation concluded that the Wilding Spread Risk Calculator should also be applied to replanting if the species being planted is a conifer species and different to the species that was last harvested. This is because a change in species may result in an increase in the scale and intensity of effects associated with wilding conifer spread and therefore existing use rights under section 10 of the RMA would not apply.

Additional controls in the NES-PF to manage the effects of wilding spread include a requirement to remove wildings from wetlands and significant natural areas every five years.

#### 6.6.2 Assessment of effects of NES-PF on wilding risk

Table 21 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects of wilding risk compared to the status quo. The benefits identified are where the NES-PF is expected to maintain or improve environmental outcomes compared to the status quo. The costs, limitations and risks indicate the areas where ability of the NES-PF to manage the risk of wilding spread are less certain, or where there is potential for an increase in adverse effects.

**Table 20:** Comparative assessment of effects on wilding risk.

#### Assessment of effects on wilding risk from the NES-PF provisions

<sup>60</sup> Ministry for Primary Industries (2014) *The right tree in the right place - New Zealand Wilding Conifer Management Strategy 2015–2030*.

<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• The Wilding Spread Risk Calculator is a risk based tool to identify the likelihood of wilding spread and introduce consent requirements when risk exceeds an acceptable threshold. As noted by Boffa Miskell (2016), this is an effective tool to identify areas where wilding spread may occur and will trigger substantive commitment to proactive management. This will <b>reduce adverse effects</b>.</li> <li>• The use of the Wilding Spread Risk Calculator encourages wilding risk to be proactively considered at the time of afforestation or replanting rather than address adverse effects of wilding conifers after they spread. This will <b>reduce adverse effects and improve environmental outcomes</b>.</li> <li>• Applying the wilding calculator to all new forests will <b>avoid adverse effects</b> that would otherwise occur, particularly in small forests<sup>61</sup>. This is based on smaller forest owners being less likely to be following the management procedures outlined in the ECOP, which encourages use of the Wilding Spread Risk Calculator.</li> </ul>	<p><b>Limitations, costs and risks:</b></p> <ul style="list-style-type: none"> <li>• There is a risk that the wilding risk calculator will not be correctly applied and therefore wilding risk will not be properly assessed. This <b>risk is mitigated</b> by the requirement for the calculator to be completed by a 'suitably competent person'<sup>62</sup>. Guidelines have also been produced to support the use of the calculator<sup>63</sup>.</li> </ul>
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### 6.6.3 Other options considered

The management of wilding spread risk was incorporated into the initial NES-PF proposal in 2011 based on submission feedback and advice from a biosecurity subgroup. The focus was then on determining the most appropriate wilding management method.

The Wilding Spread Risk Calculator is management tool used by councils and promoted by industry through ECOP so it was the logical tool to incorporate into the NES-PF. However, consideration was given to a mapping approach similar to the ESC, which would introduce consent requirements when wilding spread risk exceeded an acceptable threshold according to location. This approach was not progressed because it was based on the risks related to legacy (existing) plantations and was considered less appropriate for afforestation. There were also concerns that the mapping approach is too prescriptive and inflexible and could result in perverse outcomes, such as requiring resource consent for afforestation in some erosion prone areas where council want to encourage planting.

Despite these limitations, it is recognised that there is potential to better define geographical areas with higher risk of wilding spread and further work should be progressed in this area. Consideration of a mapping approach within the NES-PF can then be considered when the NES-PF is reviewed.

## 6.7 ASSESSMENT OF EFFECTS ON LANDSCAPES

Forestry is a highly visual component of the landscape that is subject to constant change throughout the forestry life cycle, with the most rapid and significant visual impacts occurring at the time of harvesting. Plantation forestry activities can have adverse effects on landscape values

<sup>61</sup> SCION (2015).

<sup>62</sup> Defined in the regulations as a person with tertiary qualifications in silviculture and forest ecology and at least 2 years' experience in the field of silviculture, or a person with at least 5 years' experience in silviculture which includes forest establishment.

<sup>63</sup> SCION (2015) 'Guidelines for the Use of the Decision Support System 'Calculating Wilding Spread Risk from New Plantings'  
[http://www.wildingconifers.org.nz/images/wilding/articles/Strategy/Guidelines\\_for\\_using\\_the\\_DSS\\_for\\_new\\_forest\\_plantings.pdf](http://www.wildingconifers.org.nz/images/wilding/articles/Strategy/Guidelines_for_using_the_DSS_for_new_forest_plantings.pdf)

depending on the particular landscape setting and the sensitivities of surrounding land uses. In established rural working settings there is generally low potential for adverse effects on landscape values but the likelihood of adverse effects increases when forestry is located within or near valued coastal or natural landscapes. Adverse effects may arise from afforestation but potential adverse effects generally arise from subsequent forestry activities at the end of the production cycle.

The RMA provides a number of statutory directives about the protection and management of landscapes in sections 6 and 7. Landscape assessment under the RMA often classifies valued landscapes under three broad categories<sup>64</sup>:

- ***Landscapes with high natural character in the coastal environment under section 6(a)*** – these landscapes are also identified under Policy 13(1)(c) of the NZCPS which states that the natural character of the coastal environment of the region or district be assessed and, at a minimum, areas of high natural character be mapped or otherwise identified in RMA plans; or
- ***An outstanding natural landscape under section 6(b)*** – these are natural landscapes or features that have been assessed as outstanding. Case law has determined that these landscapes should be assessed through a process that identifies the values of the landscape as being “conspicuous, eminent, especially because of excellence” or “remarkable in”<sup>65</sup>. The landscapes are often referred to as outstanding natural landscapes or ONLs consistent with the terminology in section 6(b); or
- ***An amenity landscape under section 7(c)*** – these are landscapes which have valued visual amenity at a regional or district level but are not outstanding. These visual amenity landscapes are described in various ways in plans and it may not always be obvious that a landscape is recognised in terms of section 7(c).

#### 6.7.1 Summary of provisions in NES-PF

The NES-PF includes provisions to manage adverse effects of forestry activities on landscapes of significance under the RMA as follows:

- ***Landscapes with high natural character in the coastal environment:*** Council rules may be more stringent where they give effect to Policy 13 (preservation of natural character) and Policy 15 (natural features and natural landscapes) of the NZCPS. Policy 13 is of particular relevance as this requires areas of high natural character to be mapped or otherwise identified in regional or district plans. Any natural character landscapes identified under Policy 15 of the NZCPS would continue to be managed through the relevant plan rules relating to the protection of those landscapes. Similarly, where council plans have more stringent rules to protect natural landscapes in the coastal environment identified under Policy 15 of the NZCPS, these rules would prevail over the NES-PF.
- ***Outstanding natural landscapes:*** Council rules may be more stringent where they protect outstanding natural landscapes and features recognised under section 6(b) of the RMA. Afforestation within these landscapes also requires consent as a restricted discretionary activity with consideration given to the effects on the values of the landscape.
- ***Amenity landscapes:*** Afforestation within ‘visual amenity landscapes’ identified in district plans requires consent as a controlled activity with consideration given to the effects on the

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<sup>64</sup> Landscape guidance note on the Quality Planning website. This also recognises that cultural landscapes are significant in a RMA context under section 6(f) but these are much less common in RMA plans.

<sup>65</sup> C180 / 99, Wakatipu Environmental Society Incorporated v Queenstown Lakes District Council para 82.

values of the landscape, including any further effects from subsequent plantation forestry activities (e.g. earthworks, harvesting).

Research has found that these landscapes are generally clearly identified in plans through overlays in the planning maps or specific schedules<sup>66</sup>. This is reflected in case law which has emphasised that outstanding natural landscapes should usually be obvious enough that no further need for expert analysis is required aside from determining where the particular landscape begins and ends<sup>67</sup>. This provides a level of certainty about the areas where plantation forestry activities may be restricted and the values associated with these landscapes.

### 6.7.2 Summary assessment of effects on landscape values

Table 22 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects on landscape values compared to the status quo.

**Table 21:** Assessment of effects of NES-PF provisions on landscape values.

Assessment of effects on landscape values from the NES-PF provisions	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>The NES-PF requires consent for afforestation where this is located within an outstanding natural landscape or feature (restricted discretionary activity) or within a visual amenity landscape (controlled activity). Matters of control and discretion are focused on effects on the landscape values, including any future effects from plantation forestry activities. This regulatory oversight will ensure councils can consider the effects of forestry activities on these landscapes and impose conditions to manage the effects of afforestation and subsequent forestry activities on those landscapes. The will <b>mitigate potential adverse effects</b> on these landscapes.</li> <li>The provisions in the NES-PF to protect landscapes have been designed to ensure the <b>NES-PF does not conflict with councils' responsibilities</b> under Part 2 of the RMA to protect significant landscape values. This is important to ensure the NES-PF does not cause implementation issues for councils and ensure the NES-PF <b>does not permit activities with significant adverse environmental effects</b>.</li> <li>The NES-PF allows any plan rules protecting an identified outstanding natural landscape to prevail over the NES-PF. In that sense, the provisions in the NES-PF are only as effective as the underlying district plan to identify and protect landscape values. Most district plans have provisions to protect outstanding natural landscapes in their plans to meet their responsibilities under section 6(b) as this is an active obligation. Therefore In relation to outstanding natural landscapes and features,</li> </ul>	<p><b>Limitations, costs and risks:</b></p> <ul style="list-style-type: none"> <li>Allowing stringency to protect significant landscapes recognised in council plans reduces the certainty for users of the NES-PF and reduces the coverage of the NES as a national rule set for forestry. However, this is necessary to ensure the NES-PF <b>does not permit activities with potential for significant adverse effects</b> on landscape values. Inevitably these values can only be assessed at a local level and therefore cannot be determined through the NES-PF.</li> <li>There is a risk that an outstanding natural landscape could subsequently be identified over an area of existing forestry with corresponding provisions to protect that landscape restricting forestry activities. However, this would need to occur through a Schedule 1 plan change process and forest operator would have the opportunity to participate in that process. Any new stringent rule would also need to be justified under section 32(4) of the RMA. Accordingly, this <b>risk is considered to be relatively low</b>.</li> </ul>

<sup>66</sup> For example, a review of 29 district plans found that 24 plans had identified outstanding natural landscapes and these were all identified on planning maps.

<sup>67</sup> C180 / 99, Wakatipu Environmental Society Incorporated v Queenstown Lakes District Council para 99.

## 6.8 ASSESSMENT OF EFFECTS ON AMENITY VALUES

While forestry activities are often located in remote areas away from sensitive activities, they can also be located in areas with more sensitive land uses where there is potential for conflict and adverse effects on amenity values. For example, forestry activities often involve the use of large machinery, which has the potential to generate levels of noise and dust that can adversely impact adjacent land uses and amenity values. The visual effects of forestry activities, such as quarrying, can also have potential adverse effects on amenity values when these are visible to nearby dwellings and other sensitive land uses.

### 6.8.1 Summary of provisions in NES-PF

The NES-PF includes rules and conditions to manage the effects of forestry activities on amenity values, which have been refined through consultation. The main controls in the NES-PF to manage effects on amenity values are:

- Setbacks from dwellings and sensitive urban areas for afforestation and quarrying;
- Visibility conditions for quarrying that control the size and number of the number of quarries that can be visible from dwellings;
- General permitted conditions that apply plantation forestry activities conducted within the plantation forest to ensure:
  - Reasonable noise limits are met at the notional boundary of occupied buildings containing a noise sensitive activity<sup>68</sup>;
  - Vibration from forestry activities measured within buildings on adjacent properties does not exceed acceptable standards;
  - Blasting is only conducted during daylight hours Monday to Saturday; and
  - Dust is managed to ensure it is not noxious, dangerous, objectionable or offensive beyond the boundary of the forestry property.
- Notification requirements to ensure that councils are aware of the commencement of the certain forestry activities and can monitor compliance with general conditions.

### 6.8.2 Summary assessment of effects on amenity values

Table 23 below provides an assessment of the effectiveness of the NES-PF provisions to manage effects on amenity values compared to the status quo.

**Table 22:** Assessment of effects of NES-PF on amenity values.

Assessment of effects of NES-PF on amenity values	
<b>Benefits:</b> <ul style="list-style-type: none"> <li>• The NES-PF provisions to manage effects on amenity values are targeted to the nature of forestry activities and are based on best practice. They are also intended to work together to manage potential adverse effects on amenity values. For example, the setback requirements will help ensure adverse noise,</li> </ul>	<b>Limitations, costs and risks:</b> <ul style="list-style-type: none"> <li>• Noise and vibration limits and dust management standards in the underlying plan may be more stringent than the NES-PF, potentially increasing the potential for adverse effects on amenity values. However, the thresholds for these conditions are based on existing practice and nationally accepted</li> </ul>

<sup>68</sup> Buildings containing residential, educational, healthcare activities, marae or any place of worship.

<p>vibration and dust effects are avoided in most cases, but the more specific noise, vibration and dust conditions provide added assurance that amenity values will be kept at acceptable levels. Collectively, these controls will ensure <b>environment outcomes are maintained</b>.</p> <ul style="list-style-type: none"> <li>NES-PF provisions provide certainty to users about the noise and vibration limits and dust standards that apply nationally without the need to refer to the underlying plans. This will assist with compliance and ensure <b>consistent environmental outcomes</b>.</li> <li>Noise is an issue that is well suited to being managed through an NES as there is little need for variation to suit different environments. There are also nationally accepted noise and vibration standards which the NES-PF conditions are based on. The will ensure <b>environmental outcomes consistent</b> with accepted national standards.</li> </ul>	<p>standards and are set at a relatively conservative level. Therefore the <b>risk of greater adverse effects on amenity values is considered to be low/negligible</b>.</p> <ul style="list-style-type: none"> <li>Forests can be subject to encroachment of sensitive activities, such as new development. While this potential effect cannot be entirely mitigated, the NES-PF setbacks in respect of existing dwellings, land zoned for urban, residential, industrial or commercial use, and noise sensitive activities, ensure that this <b>risk of reverse sensitivity effects are low</b>.</li> </ul>
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### 6.8.3 Other options considered

The main alternative to the NES-PF amenity provisions is to allow dust, noise and vibration to be managed by the underlying plan. This would maintain environmental outcomes but would compromise the certainty and efficiency objectives of the NES-PF. A nationally consistent set of noise and vibration limits and dust standards applying to forestry will assist users with compliance and promote more consistent environmental outcomes.

## 6.9 ASSESSMENT OF CERTAINTY IN THE MANAGEMENT OF FORESTRY ACTIVITIES

Certainty is a key driver of the NES-PF at multiple levels and this is reflected in the policy objective – to increase the efficiency and **certainty** in the management of forestry activities under the RMA.

Section 7 provides a detailed assessment of the **efficiency** of the NES-PF provisions. As such, this section is focused on assessing the effectiveness of NES-PF provisions to increase the **certainty** in the management of plantation forestry activities under the RMA. There is a degree of overlap in these assessments as certainty and efficiency are often closely interconnected and increased certainty can have substantial efficiency benefits.

There are two main elements to consider when assessing the certainty benefits of the NES-PF:

- Whether the NES-PF provisions are sufficiently certain to ensure it can be interpreted and implemented efficiently and effectively; and
- Whether the nationally consistent forestry provisions in the NES-PF will deliver the certainty benefits envisaged for users and implementers of the NES-PF.

### 6.9.1 Certainty of the NES-PF provisions

To provide certainty, the NES-PF provisions (rules and conditions) need to be clear and enforceable. This was one of the questions in the 2015 NES-PF Consultation Document and this generated a high level of comment from a range of submitter groups. Feedback indicated that some rules and conditions in the 2015 Consultation Document were not sufficiently clear or were not drafted in an enforceable manner. As a result, there was a concern that these could be subject to legal challenge and be difficult to implement and enforce.

The certainty of permitted activity conditions has therefore been a particular focus post-consultation. RMA case law and planning practice have emphasised that permitted activity rules



and conditions need to be certain, unambiguous and as un-subjective as possible. This ongoing refinement of the NES-PF provisions has involved detailed policy analysis and legal review, independent legal and planning assessments<sup>69</sup>, and feedback from stakeholders including consultation on an exposure draft of the regulations. The terminology, rule set structure and design, and permitted activity conditions have all been significantly refined through this process to improve interpretation, implementation and compliance certainty. In particular:

- **Functional overlap** – a key component of the NES-PF is specifying rules and conditions to regional councils and territorial authorities to provide certainty about who holds the RMA function for each condition and to avoid duplication. This is a particular issue where section 30 and 31 functions overlap under the RMA (e.g. earthworks) and for issues such as indigenous biodiversity where both councils have specific functions. The specification of functions to each council in the NES-PF has been refined to provide greater certainty, avoid duplication and promote efficiencies in implementation. Key changes include:
  - Clearly specifying all functions related to the ESC and sediment and erosion related conditions to regional councils as this was an area of potential duplication. These issues/effects are more aligned with regional council land use and discharge functions under section 30 of the RMA;
  - Removing the requirement to provide notice to territorial authorities of earthworks as there were no other earthworks conditions allocated to territorial authorities; and
  - Specifying conditions relating to indigenous vegetation clearance to territorial authorities.

Explicitly clarifying these functions improves certainty for councils about their respective responsibilities under the NES-PF and minimises duplication. The alignment of functions in the NES-PF was reviewed through independent reviews of the NES-PF noted above and a specific review of the changes in functions post-consultation<sup>70</sup>. These reviews helped to revise the alignment of functions and ensure this is appropriate, efficient and workable.

- **Third party approvals** – permitted activity conditions in the NES-PF Indicative Rule Set that relied on third party approval (i.e. Heritage New Zealand, adjoining land owners, councils and the Environmental Protection Authority) have been removed as they were deemed to be ultra vires. This is based on the principle that a person should be able to determine if an activity is permitted on a plain reading of the planning document, without the activity status being subject to discretion on the part of the another party.
- **Improved rule drafting and metrics** – permitted activity conditions that were difficult to interpret or determine compliance with have been refined so that they are more certain, easier to understand and comply with. For example, the conditions relating to written notice of forestry activities, the condition requiring slash to be removed from waterbodies when pruning and thinning to waste, and matters of control and direction, have all been refined to improve certainty, consistency and implementation.
- **General terminology refinement** – a number of definitions and terms used throughout the NES-PF have been refined or removed to make interpretation easier and increase certainty. For example, the use of the word ‘prevent’ has been changed to avoid situations that would make permitted conditions impossible to comply with while still emphasising that all reasonable efforts to minimise adverse effects should be made. The definitions of the eight core forestry activities have also been refined to increase interpretation certainty. In some cases, new

<sup>69</sup> MWH (2016, 2017), Adderley Head (2016, 2017).

<sup>70</sup> 4Sight (2017), ‘Assessment of Implications of Changes to the Draft National Environmental Standard for Plantation Forestry’, report prepared for Ministry for Primary Industries.

definitions have been introduced and some terms that could potentially be misunderstood (e.g. ‘incidental damage’) have been more clearly defined.

## 6.9.2 Certainty benefits for users and implementers

Delivering operational and regulatory certainty is a key driver of the NES-PF to address the problems identified in section 2 of this report. The certainty benefits of NES-PF provisions are assessed below from the perspective of those most affected by the NES-PF:

- **Users of the NES-PF** – forest owners and operators from large corporates through to small woodlot owners; and
- **Implementers of the NES-PF** – regional councils, unitary authorities and territorial authorities who have responsibilities to observe and enforce the NES-PF, along with central government who has a role to support the implementation of the NES-PF.

Table 24 provides an assessment of the certainty benefits of the NES-PF for users, and Table 25 provides an assessment of the certainty benefits for implementers.

**Table 23:** Assessment of certainty of NES-PF provisions for users.

Assessment of certainty benefits of NES-PF provisions for users	
<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• NES-PF provisions are generally based on existing plan rules or consent conditions. This means that, rather than increasing regulation, the NES-PF is replacing existing regulation with <b>nationally consistent rule set. This will provide certainty for all users</b> with the most benefit for those that operate across different council boundaries.</li> <li>• A nationally consistent rule set for forestry will also provide significant certainty benefits for smaller forestry operators who may not have the capacity to understand and comply with multiple RMA plans. This was noted by Boffa Miskell (2016) who concluded that: <ul style="list-style-type: none"> <li>◦ <i>“In practice, having a single document that identifies all forestry related activities, potential effects and associated controls also greatly simplifies and clarifies the regulatory process for forestry practitioners, especially for small-scale operators who may lack the expertise required to navigate and interpret regulatory plans”.</i></li> </ul> </li> <li>• An independent legal review<sup>71</sup> concluded that the regulations would <b>reduce the operational uncertainty that currently exists</b>. This review also noted that, while there will be an increase in regulatory requirements in some areas, the overall compliance burden would be more acceptable with forestry operations being managed through permitted activity conditions rather than triggering the need for resource consent.</li> </ul>	<p><b>Limitations, costs and risks:</b></p> <ul style="list-style-type: none"> <li>• The biggest area of <b>uncertainty for users is in relation to how the ability to be more stringent will be exercised</b> under the NES-PF, particularly if councils do not make this clear when aligning their plans to recognise the NES-PF. However, the ability to be more stringent than the NES-PF in certain circumstances was necessary to ensure local provisions can continue to protect local significant areas and give effect to other national policy direction. Without this level of flexibility, there is a <b>risk of significant adverse environmental effects</b> under the NES-PF.</li> <li>• To <b>mitigate the risk</b> of stringency being applied in an inconsistent and unintended way, guidance and targeted support will be provided to councils. This will be focused on ensuring that the ability to be more stringent is only exercised in specific circumstances consistent with the policy intent. MPI will also play an <b>active monitoring role</b> with the stringency provisions reviewed three years after the regulations come into force.</li> <li>• There will be a period of uncertainty during the transition to the NES-PF, particularly for foresters that currently do not apply the ECOP who may initially require significant support to meet the new requirements. However, this uncertainty is likely to be <b>minor and temporary</b> compared to the long-term certainty benefits of the NES-PF.</li> <li>• It is proposed that the implementation and effectiveness of the NES-PF is monitored closely, with a full review planned within three</li> </ul>

<sup>71</sup> Adderley Head (2016).

<ul style="list-style-type: none"> <li>• A nationally consistent set of rules for forestry will <b>make it easier and more certain</b> for users to determine what rules and conditions apply to their activity. Foresters will only need to understand the NES-PF provisions as opposed to checking a new set of rules each time they undertake forestry activities in a different district or region. This <b>increased level of rule comprehension will provide added certainty</b> and be of significant benefit for larger foresters operating in multiple council boundaries.</li> <li>• The NES-PF rules and conditions have been drafted in a way that <b>provides certainty on the outcome to be achieved</b> but allows users a degree of flexibility in the management practices used to achieve that outcome. This is considered to be the most <b>cost-effective and certain approach</b> without being overly prescriptive. This was noted in the assessment of Boffa Miskell (2016) which scored the NES-PF higher than plan rules noting that this <i>“adaptability highlight the emphasis NES-PF provisions place on allowing discretion and flexibility to implement best practice in forestry operations in order to limit effects”</i>.</li> <li>• Under the current planning regime, users can expect forestry related rules to be subject to review and potential change at least once every ten years (potentially more frequently depending on the number and nature of plan changes within the region/district). This uncertainty increases for foresters with plantations across several regions/districts as the number of plan review/changes affecting their operations also increases. The NES-PF will <b>significantly reduce this operational uncertainty as there is only one set of regulations to check</b> and no mandatory review period for a NES<sup>72</sup>. This provides significant certainty benefits to users of the NES-PF, which will assist foresters make operational and long term investment decisions.</li> <li>• Foresters will benefit from having access to national level guidance material supporting the NES-PF provisions. This is compared to the status quo where there is a lack of specific guidance<sup>73</sup> to help foresters understand the unique forestry rules in their region/district. The <b>national guidance will provide more certainty</b> that users are interpreting the NES-PF provisions correctly.</li> </ul>	<p>years of commencement. There is the potential that the rules may be revised as a result of the review if some rules are not having the anticipated result. While this <b>does create some uncertainty for foresters</b>, this is mitigated by the fact that any changes should simply be to ensure the rules better achieve the NES-PF policy objective.</p> <ul style="list-style-type: none"> <li>• The other key area of <b>uncertainty is the extent to which consenting requirements will be reduced</b> under the NES-PF. There is likely to be a reduction in consents due to the underlying permitted activity approach of the NES-PF. However, there is also the potential for more consents for certain forestry activities on ESC Red Zone land (as discussed further in section 7 and Appendix B). Regardless, the consistent consenting requirements and standard matters of control/discretion will be more certain than consenting requirements under the status quo.</li> </ul>
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<sup>72</sup> However, it is proposed that the implementation of the NES-PF is closely monitored to evaluate its effectiveness with an initial review proposed for three years after gazettal with subsequent reviews every five years.

<sup>73</sup> The New Zealand Code of Practice for Plantation Forestry provides national level guidance to foresters but this is not tailored to different regional and district rules that apply to forestry.

<ul style="list-style-type: none"> <li>• A single set of provisions supported by government guidance material and training will <b>reduce the risk of litigation</b> between councils and forestry operators over the meaning of conditions or whether an activity complies or not.</li> </ul>	
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**Table 24:** Assessment of certainty benefits of NES-PF for implementers.

Assessment of certainty benefits of NES-PF provisions for implementers	
Benefits:	Limitations, costs and risks:
<ul style="list-style-type: none"> <li>• NES-PF provisions are generally based on existing plan rules or consent conditions. This means that many councils will be familiar with the provisions in the NES-PF. Guidance to support implementation of the NES-PF will be targeted at those less familiar with the NES-PF provisions to assist with understanding and implementation. This <b>guidance will also give councils greater certainty</b> that they are interpreting and implementing the NES-PF provisions correctly and in accordance with national best practice.</li> <li>• Councils will have <b>certainty that NES-PF provisions will not be subject to challenge</b> during plan reviews so they can focus their efforts on other parts of the plan.</li> <li>• The ability for councils to have more <b>stringent rules to protect locally significant areas gives councils certainty</b> that they can continue to protect these areas within their district/region as appropriate.</li> <li>• The NES-PF clearly allocates responsibility for rules and conditions between territorial authorities and regional councils. This provides <b>certainty to councils about their responsibilities under the NES-PF</b> and will <b>avoid potential duplication</b> that can occur under the current planning regime.</li> <li>• Having a <b>NES in place will reduce the uncertainty</b> that councils have been exposed to during the NES-PF development process since 2009. Without the NES process being completed, councils would still be uncertain as to when or if a NES for forestry activities will be introduced or whether they need to develop/review their own forestry provisions.</li> <li>• The NES-PF will provide <b>significant certainty benefits for central government</b> as the focus will shift from policy development to implementation. The implementation costs after the transition phase are expected to be substantially less than the costs associated with policy development, as noted in the efficiency assessment in section 7 of this report.</li> </ul>	<ul style="list-style-type: none"> <li>• The NES-PF provisions will be new to some councils, particularly those with a lack of forestry specific provisions (e.g. those that have effects-based plans). <b>This will create some uncertainty</b> for those councils as they adjust to the NES-PF regime. This uncertainty in the transition period will be mitigated by guidance and support targeted at those councils.</li> <li>• It is proposed that the implementation and effectiveness of the NES-PF is monitored closely, with a full review planned within three years of commencement. There is the potential that the rules may be revised as a result of the review if some rules are not having the anticipated result. While this <b>does create some uncertainty for councils</b>, this is mitigated by the fact that any changes should simply be to ensure the rules better achieve the policy objective.</li> <li>• The implementation and effectiveness of the NES-PF is not entirely certain at this stage and there is a <b>risk of implementation issues</b> in the transition phase. This will be mitigated through guidance and targeted support until the NES-PF becomes embedded in practice and there is confidence it is being implemented as intended.</li> <li>• Councils may lack the resource and mechanisms to fund compliance with the generally permissive regime. This <b>is mitigated through the ability for councils to charge</b> for monitoring permitted activities under the NES-PF</li> <li>• The use of management plans, while common industry practice, can complicate compliance in that operators are required not only to meet the provisions of the NES but also their own management plans. Materially different management plans across operators will make compliance more complex and reduce certainty of outcomes. This is <b>mitigated through the provision of schedules</b> outlining the requirements for management plans and guidance on best management practices to comply with these requirements.</li> </ul>

### 6.9.3 Other options considered

When drafting and refining the NES-PF, a number of other options were considered that may have resulted in different levels of certainty. Two key alternatives are summarised below:

- ***Not allowing any more stringent plan rules to prevail over NES-PF:*** Not allowing councils to introduce more stringent rules to manage significant and sensitive environments unique to their locality would provide more certainty for foresters. However, applying nationally consistent provisions to all situations across New Zealand would not be appropriate as there are locally significant areas and values that cannot be adequately considered and managed through a national instrument. Allowing for council rules to be more stringent in certain circumstances is necessary to ensure these locally significant areas continue to be protected.

The NES-PF therefore allows for more stringent rules to prevail where required to give effect to higher order policy instruments, recognise and provide for certain section 6 matters, or protect unique or sensitive environments. These circumstances are intended to be specific to provide a level of certainty about where council rules can prevail over the NES-PF and ensure that national consistency is still achieved. This is the most appropriate approach to ensure the purpose of the RMA is achieved and the NES-PF meets the requirements for a NES. It is also consistent with other NESs which allow more stringent rules to prevail where they protect locally significant areas or values<sup>74</sup>.

- ***Not setting out the functions of regional councils and territorial authorities in the regulations:*** Rather than setting out which council has functions in relation to the conditions in the NES-PF the regulations could be silent and let regional councils and territorial authorities allocate responsibility between themselves based on their section 30 and 31 functions. However, this option is not sufficiently certain or workable. As the NES-PF deals with issues/activities where councils have some overlapping functions, it is important to clarify which type of council has responsibility for each condition to reduce uncertainty and avoid duplication. Failure to do this would mean that the certainty and efficiency objectives of the NES-PF would be undermined.

## 6.10 OVERALL ASSESSMENT OF EFFECTIVENESS

The NES-PF provisions have been assessed as to how effective they are in achieving the NES-PF objective, namely whether they:

1. **Maintain or improve environmental outcomes** associated with managing forestry activities under the RMA; and
2. **Increase certainty** in the management of forestry activities.

### 6.10.1 Effectiveness of NES-PF provisions to maintain or improve environmental outcomes

The assessment of the effectiveness of the NES-PF provisions to maintain or improve environmental outcomes is focused on the key effects and issues that can arise from plantation forestry activities. This assessment has demonstrated that at a national scale the NES-PF provision will be effective to maintain or improve environmental outcomes.

The NES-PF provisions are designed to achieve consistent, more certain environmental outcomes through the consistent application of established forestry management practices. The rules, conditions, and performance standards in the NES-PF are generally based on existing plan

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<sup>74</sup> For example, subpart 5 of the NES for Telecommunication Facilities 2016 states that the district plan rules prevail when the facility is located in outstanding natural features or landscapes, areas of significant indigenous vegetation, significant habitats of indigenous fauna, or in a visual amenity landscape.

provisions, consent conditions and voluntary industry practices (e.g. ECOP). In that sense, the provisions are focused on improving practice across the country rather than introducing fundamental change. In some regions/districts this will result in forestry activities achieving the same environmental outcomes as they do currently, while in other regions/districts, where current performance is below the industry standard, an improvement in environmental outcomes is likely.

More specifically, the key findings from the environmental assessment are as follows:

- **Erosion:** ensuring the erosion potential of land is assessed throughout the forestry cycle consistently across New Zealand will improve environmental outcomes, particularly in areas where erosion potential is only considered at harvesting stage. The use of a standard erosion risk assessment tool and consistent erosion management practices focused on managing erosion at source will also improve environmental performance in areas where current practice has less rigorous requirements.
- **Freshwater:** the NES-PF includes a range of rules and conditions to manage effects of forestry activities on freshwater bodies (e.g. setbacks to waterbodies, performance based permitted activity conditions for sediment discharges and slash management, management plan requirements). The NES-PF also allows for councils to have more stringent rules to give effect to the freshwater objectives developed to give effect to the NPSFM. This ensures that environmental outcomes will be maintained in relation to freshwater, but the expectation is that water quality outcomes will be improved in most cases as the NES-PF conditions and requirements to consider and manage effects on freshwater become embedded in practice.
- **Indigenous vegetation and fauna:** The regulations provide a standard set of protections for SNAs that should be generally be sufficient. However, the NES-PF also provides for councils to have more stringent provisions to protect SNAs will ensure that existing protections and outcomes in relation to these areas are maintained where necessary. The NES-PF is also likely to improve environmental outcomes in relation to indigenous vegetation and fauna in some regions/districts through the introduction of nationally consistent setback rules (to protect aquatic and terrestrial biodiversity), and management plan requirements for certain activities to consider effects on SNAs and indigenous vegetation at the outset. The indigenous bird nesting and fish spawning conditions are also likely to improve environmental outcomes through greater protection for indigenous species than currently exists in most plans.
- **Coastal environment:** the provisions in the NES-PF to manage effects on the coastal environment have been improved post-consultation to ensure that effects on the broader coastal environment are appropriately managed. The NES-PF also allows councils to have more stringent rules to give effect to key policies in the NZCPS that are of relevance to forestry (i.e. biodiversity, natural character, natural coastal landscapes, and sedimentation). This will ensure environmental outcomes are maintained in relation to these matters. The introduction of best management practices relating to slash management, sediment discharges and a nationally consistent CMA setback are likely to improve environmental outcomes at a national level.
- **Wilding conifer risk:** the use of the Wilding Spread Risk Calculator at the time of afforestation will ensure the risk of wilding spread is considered proactively rather than leaving the adverse effects to be addressed after they occur. This will minimise adverse effects from wilding conifer spread and is likely to be most effective for smaller forest owners who are currently not using the Wilding Spread Risk Calculator.
- **Landscapes:** allowing existing plan rules that protect outstanding natural landscapes and features to be more stringent than the NES-PF will maintain current environmental outcomes in relation to these landscapes. Providing for afforestation as a restricted discretionary activity in outstanding natural landscapes and features and as a controlled activity within visual amenity landscapes will allow councils to impose conditions to avoid adverse effects from afforestation and subsequent forestry activities on those landscapes.

- **Amenity values:** the general conditions relating to noise, vibration and dust from on-site plantation forestry activities, combined with setback and visibility conditions for certain forestry activities, will ensure that amenity values are maintained under the NES-PF.

#### 6.10.2 Certainty benefits of the NES-PF provisions

Certainty is a key driver of the NES-PF and will deliver the biggest benefits for the forestry industry. While certainty is inherently difficult to quantify, introducing a nationally consistent set of provisions to manage forestry activities under the RMA will deliver significant certainty benefits at multiple levels. In particular:

- The NES-PF will provide certainty about the rules and conditions that apply to forestry activities regardless of district or region. This will provide significant certainty benefits and associated efficiencies for all users, and will be of most benefit to those forestry companies that operate in multiple regions/districts.
- Users and implementers can expect the NES-PF provisions to remain relatively consistent over the life cycle of a forest in comparison with the current regime where foresters are subject to multiple plan reviews throughout the forestry life cycle. This will significantly improve operational and investment certainty for foresters and reduce the plan review process for councils in relation to the management of forestry activities.
- The NES-PF provides certainty about what activities are permitted and where consent is required based on the application of risk management tools. The risk management tools will enable informed decision-making through a new centralised level of information for councils and foresters. This provides certainty to all users about the regulatory process they can expect for each forestry activity and local terrain/environment in which it is established. This also provides certainty for eNGOs who have often engaged in the plan-making processes to seek improved environmental performance requirements for forestry activities.
- The NES-PF clearly specifies rules and conditions to be administered by regional councils and territorial authorities in accordance with their functions under the RMA. This provides certainty to users and implementers about who holds the function and responsibility for each rule and associated conditions and avoids regulatory duplication where councils have overlapping RMA functions.
- When consent is required under the NES-PF, the matters of control and discretion are targeted to the effects of most relevance to each forestry activity or condition. This will ensure consistent consent requirements and provides significantly more certainty than a full discretionary process that might be applied under the current regime. It will also help ensure the relevant council's consideration and any consent conditions are focused on the effects of the activity.
- The NES-PF provisions have been drafted so that, for the most part, they can be clearly interpreted, implemented and enforced to increase certainty for all stakeholders. Guidance will also be developed to clarify technical terms and requirements, and to provide practical examples of best management practices that can be used to comply with permitted activity conditions. This will provide certainty to users that they are complying with the NES-PF as intended. It will also provide certainty to councils that they are implementing and enforcing the NES-PF provisions in the correct manner. Consistency of interpretation and implementation will also increase over time as users and implementers become more familiar with the NES-PF requirements.

The biggest area of uncertainty in relation to the NES-PF relates to how council will exercise more stringent rules where the NES-PF allows this. However, allowing for some level of flexibility to manage locally significant areas and sensitive environments was necessary to allow for differences in local conditions that cannot be completely addressed by a national instrument. It was also important to ensure the NES-PF does not permit activities with significant adverse environmental effects in these locations or conflict with the requirements of other national policy instruments. However, uncertainty is mitigated by:

- Ensuring the circumstances where councils may be more stringent are relatively specific;
- Developing guidance, targeted support and monitoring of NES-PF implementation which will seek to ensure stringency is exercised in specific circumstances consistent with the policy intent; and
- A number of areas where more stringent provisions may apply (for example, significant natural areas) will already be included in many plans and hence known to foresters.



## 7 ASSESSMENT OF EFFICIENCY OF PROVISIONS IN THE NES-PF

### 7.1 EFFECIENCY ASSESSMENT

Section 32(1)(b)(ii) of the RMA requires an assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the proposal. Section 32(2) states that this assessment must:

- a) *“Identify and assess the benefits and costs of the environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for:*
  - i. *Economic growth that are anticipated to be provided for or reduced; and*
  - ii. *Employment that are anticipated to be provided for or reduced;*
- b) *If practicable, quantify the benefits and costs referred to in paragraph (a); and*
- c) *Assess the risk of acting or not acting if there is uncertain or insufficient information about the provisions.*

This section provides an assessment of the **efficiency** of the NES-PF provisions. The assessment of efficiency under section 32 considers whether the provisions will be likely to achieve the objectives at the lowest total cost to all members of society, or achieves the highest net benefit to all of society<sup>75</sup>. It needs to consider a broad range of costs and benefits, both tangible and intangible.

Consistent with section 32(2)(a) of the RMA, this assessment of efficiency is focused on the benefits and costs (economic, social and cultural) anticipated from the implementation of the NES-PF. Environmental benefits and costs have been assessed in sections 6.2-6.8 so this assessment is not repeated here.

Section 32(2)(b) of the RMA states that costs and benefits should be quantified where possible. Development of the NES-PF has involved a range of independent assessments and detailed analysis of benefits and costs of the NES-PF provisions, including four independent cost-benefit analyses (CBAs) in 2011, 2012, 2014 and 2016. However, due to limitations of the available data, the site specific nature of forestry activities, and inherent difficulties assessing ‘baseline’ impacts (i.e. benefits and costs without NES-PF) vs. proposal impacts, not all benefits and costs can be quantified. Further, the quantitative estimates of economic benefits and costs are based on a number of assumptions and should only be considered as indicative rather than accurate figures.

In particular:

- The most recent CBA<sup>76</sup> undertaken in 2016 used an established methodology with input from foresters and councils to quantify benefits and costs from the NES-PF where practical. However, this CBA included a number of important caveats noting there are some large uncertainties in the quantitative estimates. Environmental benefits and costs were not quantified making it a partial CBA. These limitations are discussed in more detail in section 7.2 below.
- As outlined in section 6 of this report, assessing the extent and value of environmental benefits from environmental regulation is inherently complex and difficult to quantify. The assessment

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<sup>75</sup> This approach is consistent with section 3.3, Ministry for the Environment, 2017. *A guide to section 32 of the Resource Management Act: Incorporating changes as a result of the Resource Legislation Amendment Act 2017*. Wellington: Ministry for the Environment.

<sup>76</sup> NZIER, MWH, ‘Plantation Forestry Economic Analysis – Revisions with new information on proposed National Environmental Standards’, May 2016

of environmental benefits and costs therefore indicates the direction (positive or negative) of the impacts of the proposal rather than attempting to quantify these.

- Independent assessments by subject matter experts, including lawyers, ecologists and planners, are qualitative and this is reflected in the assessment of economic benefits and costs.
- There is a degree of uncertainty over the extent to which councils will use their ability to be more stringent, the extent to which plan advocacy costs will decline, and whether the requirement for resource consents will decline or increase under the NES-PF. These uncertainties are considered in more detail below with the general conclusion that benefit to cost ratio is likely to be more favourable when the partial CBA was undertaken in 2016.

It is important to recognise that these uncertainties and assumptions are inherent in CBAs involving complex resource management issues with a wide range of receiving environments. This is particularly challenging for CBAs relating to RMA national instruments which inherently need to cover a wide range of circumstances and potential changes both in terms of the baseline scenario (i.e. without NES-PF) and proposal scenario.

## 7.2 ECONOMIC BENEFITS AND COSTS

Tables 26 to 28 provide an assessment of economic benefits and costs of the NES-PF. This assessment has been separated into benefits and costs for users of the NES-PF (forest owners and operators), implementers of the NES-PF (councils and Government), and other stakeholders (primarily local communities and eNGOs).

### 7.2.1 Limitations in assessment of benefits and costs

All quantitative benefits and costs in the following tables are based on the partial CBA undertaken by NZIER in 2016. This CBA was updated to reflect further work and changes in the NES-PF post-consultation, including refinement of the ESC. The costs and benefits in the partial CBA have been considered for a thirty year period (close to a full rotation of *pinus radiata*)<sup>77</sup>.

Although the CBA provided a quantitative assessment of economic costs and benefits, the following limitations were noted:

- There is an absence of data to quantify the marginal change between the baseline and NES-PF scenarios and it is expected that benefits and costs will vary significantly between councils depending on how they currently manage forestry and the nature of forestry within their area;
- In some cases, there was not enough information to quantify changes, particularly for environmental issues;
- Costs are generally more readily quantified than benefits of the NES-PF;
- Due to the complexity and site specific nature of forestry, it is impossible to be entirely accurate on national benefit and cost data; and
- It was very difficult to accurately quantify the benefits associated with a more certain regulatory environment even though this is a key driver of the NES-PF and generally seen as the primary benefit for the forestry industry.

Based on these limitations, the partial CBA acknowledged that there is considerable uncertainty in the baseline estimates (i.e. what would happen without an NES), likely impacts from the NES-PF, and assumptions underpinning the cost and benefit estimates.

In addition, there have been a number of changes that have taken place since this CBA was undertaken that affect some of the underlying assumptions made. In particular, refinements to the

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<sup>77</sup> Ibid, pg 36

ESC to reclassify ESC Red Zone land back to ESC Orange Zone land, refinements to the consenting requirements under the NES-PF, and recent changes to the RMA – all of which have a material influence on the CBA. As such, it is the ultimate conclusions of this assessment below that should be relied on, rather than the net benefit and cost calculations of the partial CBA.

## 7.2.2 Summary of economic benefits and costs of NES-PF for users

**Table 25:** Summary of economic costs for users of the NES-PF (foresters).

Economic benefits for users	Economic costs for users
<p><b>Reduction in plan advocacy costs, increasing over time:</b></p> <p><u>Large forest companies</u></p> <ul style="list-style-type: none"> <li>The partial CBA estimated that reduction in advocacy costs would be 40% and increasing to 50% over a period of five years, taking into account the initial cost of understanding the NES-PF and working through issues with councils<sup>78</sup>.</li> <li>Based in this predicted reduction, plan advocacy savings were estimated at \$383,000 for all large forestry companies in the first year, increasing to \$480,000 per annum over the next four years<sup>79</sup>.</li> </ul> <p><u>Small forest companies (including woodlot owners)</u></p> <ul style="list-style-type: none"> <li>The partial CBA estimated that the reduction in plan advocacy costs for all small operators would be \$61,500 per annum<sup>80</sup>. This is based on the assumption that smaller foresters spend about a third of the time large foresters do on plan advocacy and that there will be a 50% reduction in their plan advocacy costs overall.</li> </ul> <p><u>Impact of the ability to be more stringent</u></p> <ul style="list-style-type: none"> <li>The partial CBA noted that the potential size of the plan advocacy cost reduction also depends on the council take up of the ability to be more 'stringent' under the NES-PF. Users will still need to monitor plan development/review where councils introduce more stringent rules to manage forestry activities.</li> <li>The partial CBA estimated a smaller decrease in plan advocacy costs than foresters predicted (50%) due to the interaction with the NPSFM. Guidance will clarify the interaction between the NES-PF and NPSFM and mitigate any reduction in plan advocacy benefits</li> <li>Any new rules more stringent than the NES-PF would need to be justified in terms of section 32(4) which requires councils to demonstrate</li> </ul>	<p><b>Increased consenting costs, decreasing over time:</b></p> <p><u>Predicted increase in consent numbers:</u></p> <ul style="list-style-type: none"> <li>Although the NES-PF is based on a permitted activity regime, the partial CBA predicted an increase in the number of consents (162 consents under the NES-PF compared to 114 consents under the status quo). This is largely attributed to certain activities in the ESC Orange and Red Zones requiring consent.</li> <li>The estimated increase in consents is based on discussions with large and small forest owners based on the 2016 changes to the ESC (pg.26 of CBA). However, views were mixed on the extent of this increase based on the influence of the ESC and how the NES-PF will be interpreted by councils.</li> <li>Further analysis has also concluded that this predicted increase in consent numbers under the NES-PF is unlikely. In particular: <ul style="list-style-type: none"> <li>There have been more recent changes to the ESC to reclassify approximately 250,000 hectares of land in the ESC Red Zone back to ESC Orange (i.e. more than was reclassified in 2016). This means that consent numbers under the NES-PF are unlikely to increase as predicted in the partial CBA.</li> <li>The partial CBA did not specifically consider that any changes in consent numbers are highly dependent on the current plan provisions, and local conditions. Any increases in consent numbers are likely to be limited to councils without any underlying erosion classification system and many councils should experience very little or no change in consent numbers.</li> <li>It is also not clear whether this predicted increase considered activities that previously needed</li> </ul> </li> </ul>

<sup>78</sup> Ibid, pg 40

<sup>79</sup> Ibid, table 9, pg 41

<sup>80</sup> Ibid, table 15, pg 45

<p>that more stringent provisions are justified within the particular region/district. This is likely to limit new rules being more stringent than the NES-PF to specific circumstances. It also will enable foresters to use the NES-PF provisions as a national baseline to assess any more stringent rules. This will ensure foresters still benefit from significant reduced plan advocacy costs.</p> <ul style="list-style-type: none"> <li>On this basis, larger plan advocacy costs are anticipated compared to that predicted in the partial CBA.</li> </ul>	<p>consent now being permitted under the NES-PF.</p> <ul style="list-style-type: none"> <li>It is also expected that the number of consents for forestry activities under the status quo will steadily increase. Therefore the partial CBA predicted that the total number of consents required under the status quo and NES-PF will be the same or very similar after approximately 30 years.</li> </ul> <p><u>Consent costs</u></p> <ul style="list-style-type: none"> <li>There is likely to be substantial efficiency gains where consent is required under the NES-PF. Reduced consents and efficiency gains can be expected through: <ul style="list-style-type: none"> <li>Restricted discretionary and controlled activity status in the NES-PF with focused matters of control and discretion which provides a much more certain and efficient process than a discretionary process than may be applied under status quo;</li> <li>Familiarity with the same set of conditions/requirements which avoids time spend searching and understanding plans. These efficiency gains are likely to improve over time;</li> <li>Agreed approaches between councils and industry to implement the NES-PF; and</li> <li>The ability to use standard templates for consents regardless of where the activity takes place.</li> </ul> </li> <li>The partial CBA predicted the reduction in consent costs to be 10% for the first four years then 2% per annum).</li> <li>This is considered to be a conservative estimate as there are likely to be substantial efficiency gains for users associated with a nationally consistent, focused consenting requirements as outlined above. . This is discussed further in the conclusion below.</li> </ul> <p><u>Large forest owners</u></p> <ul style="list-style-type: none"> <li>Based on the increase in consent numbers predicted in the partial CBA, it was estimated that consenting costs will increase by \$543,000 for large forestry companies per annum .This is based on an estimated increase of 48 consents compared to status quo. These costs will reduce overtime as foresters become familiar with NES-PF<sup>81</sup>.</li> <li>This is based on an average consent cost of \$10,900 indicated by forest companies which includes the preparation costs and council processing costs. However, average consent</li> </ul>
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<sup>81</sup> Ibid, pg 41

	<p>costs are likely to be lower than this both initially, due to the focused matters of control and discretion, and overtime (as foresters and councils become familiar with the NES-PF). This is detailed further below.</p> <p><u>Small forest owners<sup>82</sup></u></p> <ul style="list-style-type: none"> <li>The partial CBA estimated that consenting costs for all small forestry companies would increase \$168,000 for the first year only. This is based on an increase of five cents per hectare for council consent charges and annual consent costs of \$160,000 under the status quo<sup>83</sup>. Consent costs are predicted to decrease by 2% each year.</li> </ul>
<p><b>Reduction in effort and duplication across different council boundaries:</b></p> <ul style="list-style-type: none"> <li>Nationally consistent rules and standards will allow foresters to generally use the same consent application templates for each council, regardless of location. The efficiency benefits will be greatest for larger forest companies operating in different council boundaries.</li> <li>Standardised management plan requirements will reduce the cost of foresters preparing tailored management plans for each specific council. While management plans need to be tailored to the site specific risks, there will be efficiencies through consistent requirements and best management practices. The benefits will be greatest for larger forest companies operating in different council boundaries.</li> <li>The guidance material supporting the use of the management plans and best management practices will decrease the amount of time and resources required to prepare management plans/comply with NES-PF.</li> <li>Efficiency gains will also increase over time as foresters become more familiar with how to prepare management plans and comply with the NES-PF.</li> </ul>	<p><b>Increase in compliance costs</b></p> <p><u>Predicted increase in compliance costs</u></p> <p>These costs are mostly associated with:</p> <ul style="list-style-type: none"> <li>Increased compliance costs to comply with resource consent conditions; and</li> <li>Compliance with permitted activity conditions. This expected increase is due to the increased complexity of the permitted activity conditions and reporting requirements in the NES-PF compared to status quo.</li> <li>Councils being enabled to charge for monitoring of permitted activities under the NES-PF as enabled by section 43A(8) of the RMA.</li> </ul> <p>Again these costs are expected to reduce over time as foresters become more familiar with the NES-PF conditions and develop standard practices/templates.</p> <p>Arguably, there will eventually be compliance cost benefit due to the consistent compliance requirements enabling foresters to easily understand what is required to comply and adopt standard (albeit site specific) practices.</p> <p>In terms of compliance costs for monitoring of permitted activity conditions, it is unclear what potential increases in costs might eventuate as councils control those costs through their annual plan process, just as they currently do in relation to the costs of resource consents. Currently most permitted activities are not monitored and it is considered to be unlikely that councils will have the capacity or the inclination to increase monitoring of activities where they do not present a risk. Where formerly consented activities are now permitted, it is expected that councils will want to monitor these activities, at least while they form a view of the</p>

<sup>82</sup> Consent costs are based on two sub-groups. Group 1 (2%) is expected to ignore resource consent process and NES-PF and not change is expected. Group 2 (98%) are expected to comply at the time of harvesting and costs are therefore expected to be 80% less than corporate companies.

<sup>83</sup> Ibid, table 16, pg 46

	<p>potential level of risk, but that may simply be a transfer cost, rather than a new cost.</p> <p>To mitigate this uncertainty, guidance will be provided on appropriate compliance monitoring and charging under the NES-PF. This will also be closely monitored once the NES-PF comes into force and reviewed after three years.</p> <p><u>Large forest owners – estimated costs</u></p> <ul style="list-style-type: none"> <li>• The partial CBA estimated in-house compliance costs to ensure compliance with consent conditions would increase \$66,600 per annum for all large forest companies (based on an increase of 48 consents per year and 0.05% increase in charges). These costs reduce over time as the difference in the number of consents between the NES-PF scenario and status quo reduce<sup>84</sup>.</li> <li>• The partial CBA estimated compliance costs to comply with permitted activity conditions would increase by approximately 15% (an estimated increase of \$19,000 for all large forest companies per year)<sup>85</sup>. This increase in costs is due to the increased complexity and reporting requirements in the NES-PF and the time it will take for the NES-PF to become embedded in practice. These costs are expected to decrease over time (10% in first four years, then 2% each year after) as the NES-PF conditions become more familiar.</li> </ul> <p><u>Small forest owners – estimated costs</u></p> <ul style="list-style-type: none"> <li>• The partial CBA estimated in-house compliance costs to ensure compliance with consent conditions for all small forestry companies would increase by \$30,000 for the first year only due to more documentation being required<sup>86</sup>. This is based on an increase of six cents per hectare for in-house compliance costs under the NES-PF compared to status quo.</li> <li>• The partial CBA estimated costs to comply with permitted activity conditions in the NES-PF for all small forestry companies would increase \$8,800 for the first year only<sup>87</sup>. This is based on an increase of two cents per hectare for permitted activity costs under the NES-PF compared to status quo.</li> </ul>
<p><b>More certainty:</b></p> <ul style="list-style-type: none"> <li>• Certainty is a key driver of the NES-PF and it specifically assessed a qualitative manner in section 6.9 of this report.</li> </ul>	<p><b>Opportunity cost of setbacks:</b></p> <p>The opportunity cost of not planting in setbacks has been estimated at \$281,000 for large forest companies per annum (averaged over 30 years)<sup>89</sup>. This estimated figure has taken into account the</p>

<sup>84</sup> Ibid, table 11, pg 42.

<sup>85</sup> Ibid, table 13, pg 43.

<sup>86</sup> Ibid, table 16, pg 46.

<sup>87</sup> Ibid, table 16, pg 46.

<sup>89</sup> Ibid, pg 44.

<ul style="list-style-type: none"> <li>• The NES-PF will give foresters more certainty that the consenting regime is likely to remain constant over the life cycle of a forest. This is compared to potentially three plan review cycles over the same time period under the status quo. Increased certainty around harvest areas and likely yields means that foresters can be more definite on future returns, which increases investment confidence.</li> <li>• The CBA recognised that there would be certainty benefits from the NES-PF for all parties, including users of the NES-PF, but that these benefits are difficult to quantify.</li> <li>• The attempt at financially quantifying certainty benefits in the CBA<sup>88</sup> was based on the investment made by industry in developing the NES and the fact that, if it was not enacted, industry is likely to continue to advocate for national consistency with associated costs. This is detailed more in table 27.</li> </ul>	<p>following factors that limit the economic impact of imposed setbacks:</p> <ul style="list-style-type: none"> <li>• Foresters often voluntarily setback the edge of planting areas from natural features such as riparian margins for practical reasons. Therefore, the NES-PF will often not introduce an additional cost as these setbacks would have occurred regardless.</li> <li>• Research has demonstrated that, although setback rules vary widely across councils, an average setback of around 5m-10m from freshwater bodies is common in existing plans.</li> </ul> <p>As such, many of the NES-PF setbacks are in line with current rules and the opportunity costs of the setbacks predicted in the partial CBA are considered to be high. .</p>
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### 7.2.3 Summary of economic benefits and costs of NES-PF for implementers

The NES-PF will primarily be implemented by local authorities – regional councils (which includes unitary authorities for the purpose of this report) and, to a lesser extent, territorial authorities. Central government also plays an important role in the implementation of the NES-PF through developing and delivering guidance, training and other initiatives to support users and councils implement the NES-PF. This will primarily be led by MPI with support from the Ministry for the Environment.

**Table 26:** Summary of economic costs for implementers of the NES-PF (councils and central government)

Economic benefits for implementers	Economic costs for implementers
<p><b>Reduction in plan preparation costs for councils:</b></p> <ul style="list-style-type: none"> <li>• The partial CBA estimated that plan expenditure on forestry provisions by all regional councils will reduce by 40% initially, increasing to 50% over time as councils become more familiar with the NES-PF<sup>90</sup>. This equates to savings for all regional councils starting at \$128,000 per annum<sup>91</sup>.</li> <li>• The partial CBA estimated plan expenditure savings for district councils to be slightly lower (30%) as district councils were considered more likely to introduce or retain rules that are more stringent than the NES-PF for SNAs and outstanding natural landscapes and features<sup>92</sup>. This equates to savings for all district councils starting at \$112,500 per annum<sup>93</sup>.</li> </ul>	<p><b>Plan alignment costs for councils:</b></p> <ul style="list-style-type: none"> <li>• Under section 44A of the RMA, councils can ‘align’ their plans with a NES (i.e. remove rules that duplicate or conflict) without using the Schedule 1 process. However, some plan alignment costs will still be incurred simply to cover tasks such as including references to the NES-PF in the plan text and/or deleting or amending conflicting rules.</li> <li>• The partial CBA estimated plan alignment costs to be approximately \$15,000 per regional council. This equates to \$240,000 for all regional councils spread over three years.</li> <li>• The partial CBA estimates plan alignment costs to be approximately \$5,000 per district</li> </ul>

<sup>88</sup> Ibid, section 4.1.9, pg 51.

<sup>90</sup> Ibid, pg 47

<sup>91</sup> This is based on an assumption that regional councils spend \$200,000 on forestry related matters as part of each ten year review cycle.

<sup>92</sup> Ibid, pg 48

<sup>93</sup> This is based on an assumption that district councils spend \$75,000 on forestry related matters as part of each plan review cycle.

<ul style="list-style-type: none"> <li>The predicted decrease in plan expenditure in the partial CBA is considered to be conservative as many council rules that are more stringent than the NES-PF to protect locally significant areas/waterbodies are likely to already be in place. Any new provisions are unlikely to be forestry specific (or NES-PF driven) – they are more likely to relate to implementation of the NPSFM.</li> </ul>	<p>council. This equates to \$150,000 for all district councils spread over three years.</p> <ul style="list-style-type: none"> <li>It is unclear how these different costs have been estimated and these are higher than indicated by other research into council costs to implement RMA national instruments<sup>94</sup>. However, it is recognised that this is a more complex NES so there are likely to be higher plan alignment costs, particularly for regional councils.</li> <li>Regardless of the accuracy of the estimates in the partial CBA, it is important to recognise that these 'plan alignment' costs will be significantly less than the cost of continuing to review and amend forestry plan provisions on a council by council basis. It is also a one-off cost for councils and any potential amendments to the NES-PF in the future are unlikely to require any substantial changes to plans and involve minimal plan alignment costs.</li> </ul>
	<p><b>Increases in permitted activity monitoring costs/effort</b></p> <p><u>Permitted activity monitoring and charging for monitoring permitted activities</u></p> <ul style="list-style-type: none"> <li>Regional councils will generally need to spend time and resources monitoring permitted activity conditions in the NES-PF. This is because the NES-PF conditions will be more comprehensive in some regions and councils have a duty to observe and enforce a NES under section 44A(7) and (8) of the RMA</li> <li>Following public consultation in May-June 2017, the NES-PF now includes a provision enabling councils to charge to monitor permitted activities under the NES. Costs must be set through the process set out in section 150 of the Local Government Act 2002<sup>95</sup>.</li> <li>It is difficult to estimate what such costs might be as councils will set and apply charges according to their own compliance monitoring policies. Discussions with regional council compliance staff indicate that they are likely to take a risk-based approach to monitoring permitted activities, which is the approach that Government will be promoting in guidance.</li> <li>In terms of individual effort for some councils there is likely to be limited/no change in compliance monitoring effort whereas for others it may require a lot more effort/time to</li> </ul>

<sup>94</sup> 4Sight (2017), 'Compatibility of national direction instruments with national planning template', report for the Ministry for the Environment: <http://www.mfe.govt.nz/publications/rma/compatibility-of-national-direction-instruments-national-planning-template> Feedback from councils interviewed in this research generally reported limited time and costs to align their plan to recognise the NES on Electricity Transmission Activities 2010 with estimates as low as 1-2 days of staff time.

<sup>95</sup> This requires a public consultation process on charging and includes safeguards around the costs that can be charged: the sole purpose of such charges is the recover the reasonable costs incurred by the local authority in respect of the activity to which the charge relates.



	<p>monitor permitted activity conditions in the NES-PF.</p> <p><u>Permitted activity costs</u></p> <ul style="list-style-type: none"> <li>The partial CBA estimated an increase of 15% in permitted activity monitoring costs for regional councils compared to the status quo, which considered feedback from councils and foresters. This equates to approximately \$76,800 per annum for all regional councils. This is based on the assumption that they spend \$320,000 per year on permitted activity monitoring of forestry activities under the status quo<sup>96</sup>. This predicted increase was undertaken prior to section 43A(8) of the RMA coming into force so the actual costs to regional councils is likely to be substantially lower. As noted above, this will depend on their internal charging and compliance policies.</li> <li>The partial CBA also estimated a cost increase of 15%<sup>97</sup> to monitor permitted activities for district councils. This predicted a 15% increase in costs which equates to approximately \$18,000 per annum based on the assumption that district councils spend \$120,000 per year on permitted activity monitoring of forestry activities under the status quo<sup>98</sup>. As with regional councils, the actual costs to district councils is likely to be lower depending on their approach to compliance monitoring and cost-recovery for monitoring permitted activity conditions.</li> <li>It is expected that these costs will reduce over time as the NES-PF becomes embedded in practice, and the management regime is refined. Guidance will also be developed on compliance monitoring of the NES-PF, promoting a targeted, risk-based approach which may help to reduce overall compliance monitoring costs for councils.</li> </ul>
<p><b>Reduction in government plan advocacy costs:</b></p> <ul style="list-style-type: none"> <li>The Government (typically the Department of Conservation (DOC)) occasionally gets involved in plan development where forestry activities may impact on their interests.</li> <li>Consistent with the estimates of plan advocacy cost reductions for councils, the partial CBA estimated that plan advocacy costs for DOC will decrease by 40%. This equates to an estimated saving of \$40,000 per annum based on the assumption that DOC spends \$100,000 per annum on plan advocacy relating to forestry.</li> </ul>	<p><b>Increased government consenting costs:</b></p> <ul style="list-style-type: none"> <li>DOC is the main government department that gets involved in resource consent processes. However, forestry related work only makes up a small proportion of their effort. This was estimated as 10% of a FTE (i.e. \$10,000 per year) in the partial CBA.</li> <li>Based on this assumption, the partial CBA estimated DOC's consent costs to increase by 50% or \$15,000 per annum due to the NES-PF. This was based on the predicted increase in the number of consents under the NES-PF.</li> </ul>

<sup>96</sup> Ibid, table 17, pg 47

<sup>97</sup> Ibid, pg 48

<sup>98</sup> Ibid, pg 48

	<ul style="list-style-type: none"> <li>This increase in consent costs is considered unlikely for a number of reasons, including the low likelihood that DOC will be involved in forestry consents under the NES-PF and the expectation that consent numbers are unlikely to increase in the manner predicted in the partial CBA. Further, there will be efficiency gains for DOC from only having to deal with one set of forestry provisions.</li> </ul>
<b>Certainty benefits for councils and Government:</b> <ul style="list-style-type: none"> <li>There will be long-term regulatory certainty benefits for both councils and the Government (as well as other stakeholders) resulting from the NES-PF (as assessed in a qualitative manner in section 6.9 of this report).</li> <li>While certainty can have significant efficiency benefits, certainty is difficult to quantify in monetary terms and the partial CBA acknowledged that they have no method to accurately value the certainty benefits of the NES-PF.</li> <li>To provide an indication of the certainty benefits of the NES-PF, the partial CBA considered the benefits that will be gained by having a NES for forestry in place. This will avoid ongoing policy work, meetings and workshops to advocate and achieve a set of nationally consistent forestry provisions.</li> <li>The partial CBA estimated the overall cost saving for all stakeholders as high as \$363,000 for the first year alone<sup>99</sup>. This cost saving is based on the assumption that if the NES was not enacted then Government, industry, and NGOs would continue to pursue a NES to improve certainty. This conservative estimate is based on past expenditure and forecast spending on the NES-PF which has been occurring since 2010.</li> </ul>	<b>Additional training costs for Government and councils:</b> <ul style="list-style-type: none"> <li>There will be training required for council staff on how to implement the NES-PF. It is expected that this training will be largely delivered by the Government who will incur most of the costs to prepare and deliver guidance and associated training.</li> <li>The partial CBA estimated training costs for all regional councils to be \$77,000<sup>100</sup> for the first year only. This is a one-off cost and costs will be lower if the training is delivered by the Government as described above.</li> <li>The partial CBA estimated that training costs for all district councils will be \$48,000<sup>101</sup>. This is based on 10 district councils spending \$4,800 each on training in the first year. Again, this is a one-off cost that will be reduced if training material is delivered by the Government.</li> <li>The partial CBA estimated that implementation costs incurred by the Government will be \$100,000 in the first year and \$75,000 per annum for the next two years. These costs are a result of preparing and delivering guidance documents and workshops on the NES-PF. This is a conservative estimate of the likely costs given the proactive implementation approach proposed by MPI.</li> <li>However, Government led guidance and training is a more efficient way of educating NES-PF implementers than individual councils developing their own training/guidance material and is essential to the objective of achieving consistent practice.</li> </ul>

## 7.2.4 Summary of economic benefits and costs for other stakeholders

Other stakeholders affected by the NES-PF are primarily NGOs, such as the Royal Forest and Bird Protection Society, and local communities where large forestry operations may affect their interests. However, public participation in forestry consent applications through notification of consent applications or consultation is rare as very few forestry consents are notified. The typical remote nature of forestry operations are means that consultation with potentially affected parties

<sup>99</sup> Ibid, table 22, pg 52.

<sup>100</sup> Ibid, table 23, pg 54.

<sup>101</sup> Ibid, pg 49.

or communities interests is generally not warranted. As such, the direct economic benefits and costs of the NES-PF to other stakeholders will be very low.

**Table 27:** Summary of economic costs for other stakeholders involved with the NES-PF (eNGOs and community)

Economic benefits for other stakeholders	Economic costs for other stakeholders
<p><b>Reduction in plan advocacy costs:</b></p> <ul style="list-style-type: none"> <li>• NGOs and the community are likely to spend less money getting involved in plan review processes relating to forestry provisions as plan reviews relating to forestry provisions will decrease once the NES-PF is in place.</li> <li>• Consistent with other plan advocacy estimates, the partial CBA estimated that plan advocacy costs for NGOs and communities will be reduced by 40% under the NES-PF. Based on this decrease, the total cost plan advocacy savings were estimated to be \$40,000 per annum (assuming five NGOs/community groups spend \$20,000 per year on forestry related plan review/plan changes<sup>102</sup>).</li> </ul>	<p><b>Increases in consenting costs:</b></p> <ul style="list-style-type: none"> <li>• The partial CBA estimated that NGOs and local communities are likely to spend more time examining consent processes under the NES-PF. An increase of 10% was predicted, or approximately \$10,000 per annum.</li> <li>• However, an increase in consenting costs under the NES-PF for NGOs and local communities is considered unlikely for the following reasons: <ul style="list-style-type: none"> <li>○ The NES-PF is based on a permitted activity regime and other stakeholders will not be involved in, or affected by, the vast majority of forestry activities;</li> <li>○ Forestry consents are rarely notified under the status quo and this is likely to continue under the NES-PF; and</li> <li>○ The main areas where NGOs and local communities are likely to get involved in forestry consent relates to areas where councils may be more stringent. In these situations, the costs can be attributed to the underlying plan provisions rather than the NES-PF.</li> </ul> </li> </ul>

### 7.2.5 Effects on employment and economic growth opportunities

Section 32(a)(i) and (ii) of the RMA states that opportunities for economic growth and employment should be assessed as part of the assessment of the efficiency and effectiveness of the provisions.

The NES-PF is not expected to lead to an expansion of the forestry sector as it is primarily a centralisation and rationalisation of forestry provisions rather than an increase or decrease in regulation. However, the NES-PF may indirectly lead to an increase in employment opportunities and economic growth through:

- Greater operational certainty for the forestry industry (as outlined in section 6.9 of this report);
- Efficiency benefits leading to greater security of forestry jobs and growth in some areas; and
- Less effort directed at plan advocacy which will enable forest companies to spend more resources on increasing productivity.

Overall, opportunities for economic growth and employment are likely to increase under the NES-PF compared to the status quo.

<sup>102</sup> Ibid, pg 49.

### 7.2.6 Summary of economic benefits and costs

The main economic benefits and costs anticipated from the NES-PF provisions are summarised in Table 28 below. As outlined elsewhere in this report, the extent of these benefits and costs will vary depending on the existing plan provisions and practices of forest companies across New Zealand and the table is intended to indicate the overall impacts expected at a national level.

**Table 28:** Summary of economic benefits and costs anticipated from the NES-PF.

	Main benefits anticipated	Main costs anticipated
<b><i>Users – forestry owners and operators</i></b>	<ul style="list-style-type: none"> <li>• Reduced plan advocacy costs</li> <li>• Efficiency improvements in consenting and compliance costs, increasing over time</li> <li>• Increased certainty</li> </ul>	<ul style="list-style-type: none"> <li>• Initial increase in compliance costs in transition period</li> </ul>
<b><i>Implementers – councils and Government</i></b>	<ul style="list-style-type: none"> <li>• Reduced plan development costs</li> <li>• Increased certainty</li> </ul>	<ul style="list-style-type: none"> <li>• Increased compliance monitoring costs (which may be offset to a degree by the ability to charge for monitoring permitted activities), also reducing over time</li> </ul>
<b><i>Stakeholders – local communities and eNGOs</i></b>	<ul style="list-style-type: none"> <li>• Reduced plan advocacy costs</li> <li>• Increased certainty</li> </ul>	N/A

The partial CBA concluded that the NES-PF, when compared with the status quo, will result in marginal net benefits with a national aggregate benefit to cost ratio of 1.06 ( $\pm 0.13$ ) over a 30 year period. This compares to their CBA undertaken in June 2015 which had a benefit-to-cost ratio of 1.10. This change in benefit to cost ratio is largely driven by the 2016 revisions to the ESC which reclassified higher risk ESC Orange Zone land to ESC Red Zone. .

Further consideration of the economic benefit and costs of the NES-PF indicates that the benefit to cost ratio is likely to be significantly greater than when the partial CBA was undertaken. This is primarily due to the 2017 ESC changes which mean the predicted increase in consent numbers is unlikely and underestimation of the efficiency gains that are likely to occur under the consent process under the NES-PF as outlined below.

#### **Consent numbers**

As outlined in section 6 of this report and **Appendix B**, there have been revisions to the ESC in March and June 2017 that means that the anticipated increase in consent numbers is likely to be less than estimated in the partial CBA. It also appears that the CBA did not consider the likelihood of additional forestry consents on ESC Red Zone land and the fact that a consent regime already currently exists in some of the reclassified land (e.g. Gisborne). In particular, the following should be noted:

- **Reclassification of ESC land** – the predicted increase in consent numbers under NES-PF (approx. 50 per year) was based on the reclassification of approximately 200,000 hectares of high risk ESC Orange Zone land to ESC Red Zone in 2016. Since this time, there has been some further refinement of the ESC to ensure that it accurately reflects erosion susceptibility of land under short rotation softwood regimes. This exercise explicitly looked at whether the land was suited for short rotation softwood forestry. Land considered to be predominantly unsuitable remains in the Very High Risk red zone.

Land that was over-risked was moved from the ESC Red Zone to the ESC Orange Zone. This resulted some reclassification of land to the ESC Orange Zone in Northland, Waikato,

Gisborne, Southern Hawkes Bay, Wairarapa, Taranaki, and Manawatu. Importantly, this reclassification resulted in approximately 250,000 hectares of land within the Manawatu-Whanganui region that was ESC Red Zone in 2016 moving back to as ESC Orange Zone. Plantation forestry is seen as the most appropriate land use on this land and resource consent is no longer required on this land (which would have been required in 2016 when the CBA was undertaken).

- **Reclassified land already subject to consent process** – a number of the areas reclassified as ESC Red Zone in 2016 are currently subject to a consent process due to the area being identified as erosion prone in the underlying plan or other site specific factors (e.g. Gisborne). This means that the number of consents in these areas is likely to be largely the same under the NES-PF as the status quo rather than increase.
- **ESC Red Zone not being suitable for forestry** – the ESC Red Zone classification is intended to send a clear signal that this land has very high erosion susceptibility risk, and is marginal land generally unsuitable for production forestry. The exception is some ESC Red Zone land in the Gisborne area, where some highly mobile deep seated erosion features are classified as ESC Red Zone but are also suited to production afforestation. Any production forestry in the red zone requires greater regulatory oversight than the lower risk zones. The underlying unsuitability effectively discourages forestry on this and means that a large increase in consents for forestry activities (particularly afforestation) on this land is unlikely.

Collectively, this means the increase in consents under the NES-PF is unlikely to occur as predicted in the partial CBA and is more likely to be consistent with the status quo. Given that the increase in consent costs under the NES-PF was the biggest cost estimated in the partial CBA (\$543,000 per year for large forest companies, \$168,000 for small forest companies), this is likely to significantly improve the benefit to cost ratio of the NES-PF.

### **Consenting efficiencies**

The partial CBA appeared to underestimate the efficiency gains that are likely to occur under the NES-PF, some of which of partly due to recent changes to the regulations and the RMA that affect their underlying assumptions. In particular the NES-PF has a default controlled and restricted discretionary activity status where consent is required with targeted matters of control/discretion focused on the effects of the activity.

These matters of control and discretion have also been refined through the regulation drafting process to make these clearer, more consistent and specific. This will result in more consistent and focused, and thereby more efficient, consent process under the NES-PF. This is likely to be considerably more efficient than can occur under a full discretionary process that may be applied under the current regime. It also enables foresters to achieve efficiency gains through standard consent application templates and improved knowledge of consenting requirements.

The average council processing charges and processing timeframes (statutory days) for controlled and restricted discretionary activities under the RMA is provided in table 29 below. The partial CBA estimated average consent costs as \$1,217 (council charges) and \$10,891 in total (council charges and preparation costs) based on discussions with forest companies. It is expected that consent costs under the NES-PF are likely to be lower than the status quo and average consent costs under the RMA due to the efficiency gains outlined above.

**Table 29:** Average processing timeframe and council processing charges for controlled and restricted discretionary activities (source: NMS 2015/16).

	Average cost – all consents	Average cost – land use consent	Average timeframe – all consents	Average timeframe – land use consents
Controlled	\$1075.03	\$945.16	17.15 days	12.01 days

Restricted discretionary	\$1663.70	\$1448.83	16.67 days	14.21 days
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### **Other efficiency factors**

In addition to the consenting efficiencies note above, it is considered that the benefit to cost ratio will be more favourable than predicted in the partial CBA for the following reasons:

- The partial CBA did not quantify environmental benefits due to a number of uncertainties and information gaps. As outlined in section 6 of this report, the NES-PF is likely to improve environmental outcomes, which would also significantly improve the benefit to cost ratio if these benefits were assessed in a quantitative way;
- The partial CBA states that it is difficult to quantify the value of increased certainty in monetary terms and provided a conservative estimate of the certainty benefits. As outlined in section 6 of this report, the improvement in certainty for both users and implementers is the most important benefit of the NES-PF for foresters and a primary driver for its development. Given that the certainty benefits are likely to be undervalued in monetary terms, the cost benefit ratio is likely to be more favourable;
- Plan advocacy benefits are likely to be greater than predicted in the partial CBA on the basis that councils' rules to protect locally significant areas are generally already in place and any new rules are more likely to relate to the NPSFM or NZCPS rather than be forestry driven. Further, foresters will be able to use the NES-PF provisions at a nationally accepted (and thoroughly tested) rule set to assess any new more stringent rules which councils will need to justify under section 32(4); and
- The predicted increase in consenting costs for DOC, NGOs and local communities is considered to be highly unlikely as forestry consents rarely involve notification under the status quo and this is likely to continue under the NES-PF. In addition, the NES-PF introduces a common set of requirements and matters of control and discretion, such that a more standard approach can be applied to all forestry consent applications.

## **7.3 SOCIAL BENEFITS AND COSTS**

There are limited social benefits and costs anticipated as a result of the NES-PF provisions. The most significant impacts on the general public, NGOs and other stakeholders are anticipated to be either environmental or economic as outlined above. For example, any increase in employment or economic growth opportunities for the general public associated with the NES-PF are primary economic benefits rather than social benefits.

The limited social impacts can be attributed to the fact that plantation forests are usually found in isolated rural settings; often on retired farm country. The location of the forestry industry is often driven by the need for large amounts of inexpensive land away from urban centres. A remote/rural location for forestry operations also helps to avoid reverse sensitivity effects from sensitive/incompatible land uses which can occur over the forestry life cycle.

The typically rural location of forestry activities means that most of the general public generally has limited interaction with forestry as an industry, aside from observing the forest when travelling past or through plantations. Plantation forests in urban areas<sup>103</sup> are also not regulated

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<sup>103</sup> Urban areas are excluded from the definition of plantation forestry in the NES-PF. Urban areas are defined in the regulations "an area identified in a district plan or proposed district plan as being primarily zoned for residential, industrial, or commercial activities, together with adjoining special purpose and open space zones, however described. Does not include an area zoned primarily for rural or rural-residential activities, however described"

under the NES-PF which effectively prevents any direct impacts of the NES-PF on urban populations.

The main social benefits and costs anticipated from the NES-PF provisions relate to public participation, and indirect effects on health and safety, as outlined further below.

### 7.3.1 Effects of NES-PF on public participation

The main potential social benefits and costs from the NES-PF relate to public participation. It is likely that public participation in forestry consent applications will reduce under the NES-PF as this is based on a national set of rules and a permitted activity regime. However, some assessments have also predicted that the NES-PF will lead to an increase in consents due to the ESC consent requirements and that stakeholders will scrutinise these consents more<sup>104</sup>.

Overall, the effects on public participation under the NESPS are likely to be limited and consistent with the status quo. Currently, very few forestry consents are notified and only rare exceptions proceed to the Environment Court. This was confirmed through discussions with foresters when undertaking the partial CBA<sup>105</sup>. This is likely to continue under the NES-PF. Larger NGOs have also indicated that plantation forestry is a very small portion of their consenting and plan advocacy costs, which in part reflects their level of comfort with the current environmental practices of the forestry industry<sup>106</sup>.

### 7.3.2 Indirect effects of NES-PF on health and safety

There may be an indirect social benefit resulting from improved documentation of health and safety procedures. Foresters often include environmental compliance and health and safety requirements in management plans to collate all compliance matters in the same place. The NES-PF is anticipated to improve management plan documentation across the forestry industry, including smaller operators who may not currently use management plans with the level of detail required by the NES-PF (or use management plans at all).

This increased awareness of environmental practices and documenting these in management plans may indirectly encourage better documentation of health and safety procedures. This is consistent with feedback from foresters and councils who confirmed that operators that have good environmental records also have good health and safety records (and vice versa)<sup>107</sup>. This may have flow on social benefits such as safer working conditions and potentially reduced numbers of worker injuries.

## 7.4 CULTURAL BENEFITS AND COSTS

This section focuses on the potential cultural benefits and costs anticipated from the implementation of the NES-PF, focusing on the potential impacts on iwi/Māori. Iwi/Māori have diverse interests in the forestry industry including interests in larger forest operations and holdings; both as property owners (with forestry land or adjacent to forestry land) and as kaitiaki.

Given that iwi/ Māori have a strong environmental focus in their role as kaitiaki, there was a certain amount of overlap between cultural and environmental issues raised by iwi during consultation on the NES-PF (e.g. better protection of waterways). To avoid duplication, any

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<sup>104</sup> NZIER (2016).

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

potential environmental benefits and costs raised by iwi/Māori have been considered in the assessment of environmental effects in section 6.

#### 7.4.1 Effects on cultural and archaeological sites

One of the key cultural issues raised when developing the NES-PF was how heritage and cultural sites (e.g. waahi tapu, archaeological sites, etc.) will be managed/protected under the NES-PF and whether this should be done nationally or locally. Some submitters stated that the NES-PF should allow councils to have more stringent rules to protect culturally significant sites. Conversely, other submissions sought a national rather than a regional approach to the protection of cultural sites.

It was determined that specific provisions in the NES-PF to protect cultural and archaeological sites were not appropriate or practical at a national level. This is because the necessary level of protection is often site-specific and dependent on the values/sensitivities of the site and the knowledge and requirements of the local iwi/Māori. Therefore these matters are best provided for by local council rules rather than through the NES-PF. The provisions of the Heritage New Zealand Pouhere Taonga Act 2014 will also continue to apply to protect archaeological sites whether known or unknown.

Effects on Māori cultural values and historic heritage are therefore not regulated under the NES-PF and regional and district plans will continue to manage these effects under section 43A(5) of the RMA<sup>108</sup>. As councils will continue to manage these sites and features through the underlying protections in the relevant plan, no cultural costs or benefits are anticipated from this approach under the NES-PF.

#### 7.4.2 Effects on participation with iwi/Māori

There should be no (or very limited) impact on iwi/Māori participation in consent applications or the role of iwi as kaitiaki as a result of the standardisation of forestry provisions in a NES-PF. The consent process will still be administered by councils and there should be no impact on existing arrangements that councils have with iwi/Māori in relation to engagement and consultation. Iwi/Māori will still be able to submit on notified consent applications for forestry as they do currently. Very few applications are likely to be notified under the NES-PF but this is consistent with the status quo.

#### 7.4.3 Summary of cultural benefits and costs

Table 30 provides a summary of the cultural benefits and costs anticipated from the NES-PF provisions.

**Table 30:** Summary of cultural benefits and costs anticipated from the NES-PF.

Cultural benefits	Cultural costs
<p><b>A more permissive and certain forestry regime will have benefits for iwi/Māori with current or future forestry land holdings</b></p> <ul style="list-style-type: none"> <li>Some iwi have significant interests in forests operations, such as the eight iwi that form the Central North Island Iwi Collective and more recent initiatives such as the Te Taitokerau Māori Forestry Collective.</li> <li>There will be certainty and efficiency benefits for iwi that own forestry land in the same way as general foresters (as described in section</li> </ul>	<p><b>Does not align with some cultural aspirations for land use:</b></p> <ul style="list-style-type: none"> <li>Feedback from iwi during consultation included comments that the NES-PF promoted the growth of a foreign tree species in New Zealand, which is contrary to cultural aspirations for increased indigenous vegetation plantations.</li> <li>The desire by iwi to focus on development of indigenous plantations and the return of land</li> </ul>

<sup>108</sup> This allows plan rules to manage the effects of an activity permitted under an NES if those effects are not dealt with in the terms and conditions in the NES.



<p>7.2 above). However, these economic benefits may also have flow on cultural benefits for the wider iwi/hapū through the Trust organisation.</p>	<p>to indigenous owners is outside the scope of the NES-PF to address.</p> <ul style="list-style-type: none"> <li>Although the NES-PF does support the forestry industry, it does not actively encourage exotic or indigenous plantations instead leaving this to be market led. As such, the chance of more land being converted into indigenous forestry in the future is likely to be the same as under the current scenario.</li> </ul>
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## 7.5 OVERALL ASSESSMENT OF EFFICIENCY

The policy objective of the NES-PF is to:

- Maintain or improve the environmental outcomes associated with plantation forestry activities nationally; and
- Increase the efficiency and certainty in the management of those activities under the RMA.

This assessment has found that the NES-PF permitted activity based provisions, balanced with consent requirements for forestry activities/situations where risk increases and more control is warranted, are the most efficient way to achieve the policy objective. More specifically:

- The NES-PF will provide an efficient approach to maintain or improve environmental outcomes, by introducing a nationally consistent rule set based on environmental best practice. It also promoted a risk based regime to achieve an appropriate balance between a permitted regime and targeted consent requirements when environmental risk exceeds acceptable thresholds.
- In economic terms, the NES-PF provisions will have a positive benefit to cost ratio. The economic benefits are primarily improved operational certainty and regulatory certainty for both users and implementers, plus significant ongoing plan advocacy savings for all stakeholders. The removal of unwarranted variation and the efficiency gains associated with a consistent set of rules to use and administer is also a significant benefit. These benefits are estimated to outweigh the likely costs from the NES-PF, particularly as some of these costs are one-off costs, costs that are similar to the status quo, or costs that will reduce over time as the NES-PF becomes embedded in practice.
- Further analysis post-consultation indicates the benefit to cost ratio is likely to be higher than when the CBA was undertaken in 2016. This is due to some key benefits (i.e. environmental) not being quantified and the expectation that some efficiency benefits will be greater than predicted (partly due to refinements through the drafting process). However, the most significant change is the reclassification of land back into the ESC Orange Zone in 2017 meaning resource consent is no longer required under the NES-PF. This means the increase in consent numbers and associated costs predicted in the partial CBA are unlikely to occur. These changes are likely to significantly improve the overall benefit to cost ratio of the NES-PF.
- The provisions are also efficient from a social and cultural perspective, primarily because the provisions are unlikely to have any significant impact on the social or cultural wellbeing of the community or iwi/Māori. The ability to be more stringent in certain circumstances provides a level of local flexibility to protect locally significant areas and sensitive environments ensures that public participation and local democracy is not undermined and largely consistent with status quo.

## 7.6 RISK OR ACTING OR NOT ACTING IF THERE IS UNCERTAIN OR INSUFFICIENT INFORMATION

Section 32(2)(c) requires an assessment of the risk of acting or not acting if there is uncertain or insufficient information.

Overall, there is very limited risk of acting as there is a high level of certainty and information about the provisions. Forestry is a well-established and extensive industry and there is significant understanding of potential risks and adverse effects of the NES-PF through the ongoing policy work and refinement that has occurred since 2010. Techniques to manage the adverse effects and risks from plantation forestry are well founded in current best practice. The approach of the NES-PF has been to review and adopt best practice across the country, including in plans and through the voluntary ECOP. In addition, significant consultation was undertaken and feedback scrutinised to identify those areas where stakeholder concerns were highest.

The main area of uncertainty in the implementation of the NES-PF, which cannot be fully assessed at this point of time, relates to how council will exercise more stringent rules where the NES-PF allows this. However, allowing for some level of flexibility to manage locally significant areas and sensitive environmental was necessary to ensure the NES-PF did not permit activities with significant adverse environmental effects or conflict with other national policy instruments. The circumstances where councils may be more stringent are also relatively specific. Guidance, targeted support and monitoring of NES-PF implementation will also focusing on ensuring stringency is only exercised in specific circumstances consistent with the policy intent. This mitigates the risk of acting through the NES-PF.

The risks are not acting are also well known as highlighted in the current status and problem statement in section 2 of this report Not acting through the NES-PF is likely to result in the problems of unwarranted variation in RMA plan provisions creating regulatory inefficiencies and operation uncertainty for the forestry industry.

## 8 CONCLUSION

Plantation forestry is a nationally important industry for New Zealand and faces significant uncertainty as a result of unwarranted variation in RMA plan provisions across the country. This problem is exacerbated by the disconnect between the length of an average forestry life cycle and the timeframes for RMA plan reviews (26-32 years vs 10 years respectively). This means foresters may be subject to a number of plan reviews throughout a single crop rotation creating significant operational and investment uncertainty. While some local variation in plan provisions for forestry is expected and appropriate, analysis has shown the level of variation is unwarranted. This variation can lead to uncertain and inconsistent environmental outcomes and create planning difficulties and inefficiencies for the forest industry, particularly those that operate within multiple council boundaries.

The NES-PF is intended to address these issues. The policy objective of the NES-PF is:

- c) Maintain or improve the environmental outcomes associated with plantation forestry activities nationally; and
- d) Increase efficiency and certainty in the management of plantation forestry activities.

The report has evaluated the NES-PF policy objective and provisions in accordance with the requirements in section 32 of the RMA. The key findings of this evaluation are as follows:

- **Policy objective:** the policy objective of the NES-PF is considered to be the most appropriate option to achieve the purpose of the RMA. The policy objective seeks to maintain or improve environmental outcomes by implementing industry best practice nationally, consistent with the environmental directives in Part 2 of the RMA. The policy objective also directly responds to a nationally important resource management issue – unwarranted variation in the management of New Zealand’s third largest primary industry. The policy objective aims to achieve greater certainty and efficiency in the management of forestry activities under the RMA which will enable foresters and the wider community that benefits from the forestry industry to better provide for their economic and social wellbeing consistent with section 5(2) of the RMA.
- **Other reasonably practicable options:** a number of reasonably practical options have been considered to achieve the policy objective. The assessment found that a NES is the most appropriate option. A NES was found to be the most effective and certain option to provide greater national consistency, remove unwarranted variation and deliver net economic and environmental benefits. A largely permitted activity regime that uses performance based conditions, coupled with a requirement for resource consent where risks exceed acceptable thresholds, was also found to be the most appropriate underlying option for the NES-PF. This ‘risk based’ approach is both efficient and effective as it enables lower risk activities to be undertaken as permitted activities, while focusing regulatory effort on higher risk activities.
- **Effectiveness assessment:** this evaluation found that the NES-PF provisions will be ‘effective’ to maintain or improve environmental outcomes and increase certainty in the management of forestry activities under the RMA. In particular:
  - The NES-PF provisions are targeted to the effects and risks associated with forestry activities and are designed to achieve consistent, more certain environmental outcomes through the consistent application of established best practice forestry management practices. A key focus of the NES-PF is managing sediment and erosion at source and using a risk based approach and management plans to proactively identify and manage

activity and site-specific risks. Foresters and councils will benefit from the use of risk management tools and improved centralised information on environmental risks to better inform decision-making.

- The rules, conditions, and performance standards in the NES-PF are generally based on existing plan provisions, consent conditions and voluntary industry practices. In that sense, the NES-PF is focused on improving practice across the country rather than introducing fundamental change. In some regions/districts this will result in forestry activities being required to meet the same environmental outcomes as they do currently, while in other regions/districts an improvement in environmental outcomes is likely. The NES-PF also allows councils to retain or introduce more stringent rules in certain circumstances to protect locally significant areas and give effect to national policy instruments.
- In the short-term, there will be a degree of transitional uncertainty as NES-PF provisions become embedded in industry and council practice. This will be offset in the medium to long-term through the significant certainty benefits associated with nationally consistent provisions for the management of forestry under the RMA. This will benefit all foresters and be of particular benefit to foresters who operate in multiple districts/regions. Foresters can also expect the overall intent of the NES-PF to remain relatively consistent over the forest life cycle, which will significantly improve operational and investment certainty.
- The NES-PF will introduce consistent permitted activity conditions and focused consent requirements, through the use of controlled and restricted discretionary consent status and the application of targeted matters of control/discretion. This will provide significantly greater certainty compared to the current regime where a full discretionary process with wide range of considerations may apply. These certainty benefits are likely to increase over time as the NES-PF becomes embedded in practice.
- ***Efficiency assessment:*** this evaluation found that the NES-PF provisions will be ‘efficient’ based on an assessment of the benefits and costs anticipated from the implementation of the provisions. In particular:
  - The NES-PF will provide an efficient approach to maintain or improve environmental outcomes by introducing a nationally consistent rule set based on industry best practice. It utilises a risk based approach to achieve an appropriate balance between a permitted activity regime and targeted consent requirements when environmental risk exceeds acceptable thresholds. This was found to be the most cost-effective approach.
  - In economic terms, the NES-PF provisions will have a positive benefit to cost ratio which has been confirmed in an independent CBA. The expected economic benefits from the NES-PF are primarily:
    - Improved regulatory certainty and efficiency for users and implementers through a nationally consistent set of rules and conditions to use and implement. In particular, foresters will benefit from a standard set of permitted activity conditions to comply with across the country and a more focused, and thereby efficient, resource consent process.
    - Significant ongoing plan development and advocacy savings for all stakeholders. Foresters will incur significantly less costs advocating for more consistent forestry provisions at the local and central level and councils will spend considerably less resources developing and reviewing forestry provisions.

- It is also expected that efficiency benefits of the NEPF will increase over time as foresters and councils become familiar with the NES-PF and develop standard procedures and templates.
- Further analysis post-consultation also indicates the benefit to cost ratio is likely to be higher than when the CBA was undertaken in 2016. This is due to some key benefits (i.e. environmental) not being quantified and the expectation that some efficiency benefits will be greater than predicted (partly due to refinements through the drafting process). However, the most significant change is the reclassification of land back into the ESC Orange Zone in 2017 meaning resource consent is no longer required under the NES-PF. This means the increase in consent numbers and associated costs predicted in the partial CBA are unlikely to occur. These changes are likely to significantly improve the overall benefit to cost ratio of the NES-PF.
- ***Risks of acting where there is uncertain or insufficient information (section 32(2)(c)):***  
There is a high level of confidence that the NES-PF will deliver its expected benefits, particularly in relation to improved operational and regulatory certainty, improved consistency in how forestry activities are managed under the RMA, and delivering the same or improved environmental outcomes. However, there are inevitably some information gaps and uncertainties in this evaluation. In particular:
  - There are uncertainties in the quantitative costs and benefits provided in the 2016 CBA;
  - There is a degree of uncertainty about how the provisions will be implemented nationwide and the levels of compliance from foresters (and associated compliance monitoring from councils); and
  - It is unclear how the ability for councils to have more stringent rules than the NES-PF will be exercised.

These potential risks will be mitigated through a comprehensive implementation package and a proactive monitoring and evaluation programme to ensure the NES-PF is achieving its objective. The monitoring and evaluation programme will also provide a basis for continuous improvement of the NES-PF to recognise improvements in forestry practices and improved knowledge.

Overall, this evaluation has demonstrated that the NES-PF policy objective is the most appropriate to achieve the purpose of the RMA, and the NES-PF provisions will be effective and efficient to maintain or improve the environmental outcomes associated with plantation forestry, while increasing efficiency and certainty in the management of those activities under the RMA.

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# APPENDIX A: STATUTORY PROVISIONS IN RESOURCE MANAGEMENT ACT 1991

## Section 32. Requirements for preparing and publishing evaluation reports

- (1) An evaluation report required under this Act must—
  - (a) examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act; and
  - (b) examine whether the provisions in the proposal are the most appropriate way to achieve the objectives by—
    - (i) identifying other reasonably practicable options for achieving the objectives; and
    - (ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and
    - (iii) summarising the reasons for deciding on the provisions; and
  - (c) contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.
- (2) An assessment under subsection (1)(b)(ii) must—
  - (a) identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—
    - (i) economic growth that are anticipated to be provided or reduced; and
    - (ii) employment that are anticipated to be provided or reduced; and
  - (b) if practicable, quantify the benefits and costs referred to in paragraph (a); and
  - (c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.
- (3) If the proposal (an amending proposal) will amend a standard, statement, regulation, plan, or change that is already proposed or that already exists (an existing proposal), the examination under subsection (1)(b) must relate to—
  - (a) the provisions and objectives of the amending proposal; and
  - (b) the objectives of the existing proposal to the extent that those objectives—
    - (i) are relevant to the objectives of the amending proposal; and
    - (ii) would remain if the amending proposal were to take effect.

## Section 43. Regulations prescribing national environmental standards

- (1) The Governor-General may, by Order in Council, make regulations, to be known as national environmental standards, that prescribe any or all of the following technical standards, methods, or requirements:
  - (a) standards for the matters referred to in section 9, section 11, section 12, section 13, section 14, or section 15, including, but not limited to—
    - (i) contaminants
    - (ii) water quality, level, or flow
    - (iii) air quality

- (iv) soil quality in relation to the discharge of contaminants
- (b) standards for noise
- (c) standards, methods, or requirements for monitoring.
- (2) The regulations may include:
  - (a) qualitative or quantitative standards
  - (b) standards for any discharge or the ambient environment
  - (c) methods for classifying a natural or physical resource
  - (d) methods, processes, or technology to implement standards
  - (e) exemptions from standards
  - (f) transitional provisions for standards, methods, or requirements.
- (3) Section 360(2) applies to all regulations made under this section.

#### **Section 43A. Contents of national environmental standards**

- (1) National environmental standards may—
  - (a) prohibit an activity:
  - (b) allow an activity:
  - (c) restrict the making of a rule or the granting of a resource consent to matters specified in a national environmental standard:
  - (d) require a person to obtain a certificate from a specified person stating that an activity complies with a term or condition imposed by a national environmental standard:
  - (e) specify, in relation to a rule made before the commencement of a national environmental standard,—
    - (i) the extent to which any matter to which the standard applies continues to have effect; or
    - (ii) the time period during which any matter to which the standard applies continues to have effect:
  - (f) require local authorities to review, under section 128(1), all or any of the permits to which paragraph (ba) of that subsection applies as soon as practicable or within the time specified in a national environmental standard.
- (2) A national environmental standard that prohibits an activity—
  - (a) may do one or both of the following:
    - (i) state that a resource consent may be granted for the activity, but only on the terms or conditions specified in the standard; and
    - (ii) require compliance with the rules in a plan or proposed plan as a term or condition; or
  - (b) may state that the activity is a prohibited activity.
- (3) If an activity has significant adverse effects on the environment, a national environmental standard must not, under subsections (1)(b) and (4),—
  - (a) allow the activity, unless it states that a resource consent is required for the activity; or
  - (b) state that the activity is a permitted activity.
- (4) A national environmental standard that allows an activity—



- (a) may state that a resource consent is not required for the activity; or
  - (b) may do one or both of the following:
    - (i) state that the activity is a permitted activity, but only on the terms or conditions specified in the standard; and
    - (ii) require compliance with the rules in a plan or proposed plan as a term or condition.
- (5) If a national environmental standard allows an activity and states that a resource consent is not required for the activity, or states that an activity is a permitted activity, the following provisions apply to plans and proposed plans:
- (a) a plan or proposed plan may state that the activity is a permitted activity on the terms or conditions specified in the plan; and
  - (b) the terms or conditions specified in the plan may deal only with effects of the activity that are different from those dealt with in the terms or conditions specified in the standard; and
  - (c) if a plan's terms or conditions deal with effects of the activity that are the same as those dealt with in the terms or conditions specified in the standard, the terms or conditions in the standard prevail.
- (6) A national environmental standard that allows a resource consent to be granted for an activity—
- (a) may state that the activity is—
    - (i) a controlled activity; or
    - (ii) a restricted discretionary activity; or
    - (iii) a discretionary activity; or
    - (iv) a non-complying activity; and
  - (b) may state the matters over which—
    - (i) control is reserved; or
    - (ii) discretion is restricted.
- (7) A national environmental standard may specify the activities for which the consent authority—
- (a) must give public notification of an application for a resource consent:
  - (b) is precluded from giving public notification of an application for a resource consent:
  - (c) is precluded from giving limited notification of an application for a resource consent

## APPENDIX B: SUMMARY OF ESC CHANGES

Table 31: Changes in area of land in each ESC Zone for each revisions of the previous versions (source: Basher, 2017).

	Area (000 ha)				
	Low	Moderate	High	Very High	Undefined
<b>2011</b>	8,596	4,513	3,023	1,581	9,057
<b>2015</b>	10,056	4,715	2,388	554	9,057
<b>2016</b>					
<b>2017 March revision</b>	11,259	5,781	3,621	5,002	971
<b>2017 June field assessment</b>					

Table 32: Application of ESC classes to forestry activities under the NES-PF.

	Green (Low Risk)	Yellow (Moderate Risk)	Orange (High Risk)	Red (Very High Risk)
<b>Afforestation</b>	Permitted	Permitted	Permitted	Restricted discretionary
<b>Pruning and thinning to waste</b>	Permitted	Permitted	Permitted	Permitted
<b>Earthworks</b>	Permitted	Permitted	Restricted discretionary (slope greater than 25 degrees)	Restricted discretionary
<b>River crossing</b>	Permitted	Permitted	Permitted	Permitted
<b>Forestry quarrying</b>	Permitted	Permitted	Restricted discretionary (earthflow terrain)	Restricted discretionary
<b>Harvesting</b>	Permitted	Permitted	Permitted	Controlled Restricted discretionary (class 8e)

<b>Mechanical land preparation</b>	Permitted	Permitted	Restricted discretionary (slope greater than 25 degrees)	Restricted discretionary
<b>Replanting</b>	Permitted	Permitted	Permitted	Permitted

Table 33: Summary of changes to ESC and consenting implications.

• Year	• Revisions made	• Key changes	• Implications
<ul style="list-style-type: none"> <li>• <b>2015 – Update of ESC for proposed NES-PF<sup>109</sup>.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Reclassification of those ESC units/polygons that were clearly misclassified as High Risk ESC class and Very High Risk ESC class.</li> <li>• Address limitations relating to the scale of mapping.</li> <li>• Establish a process by which future changes to the ESC would be managed (although this sits outside the ESC incorporated into the NES-PF).</li> </ul>	<ul style="list-style-type: none"> <li>• Misclassified land was reclassified as follows: <ul style="list-style-type: none"> <li>○ 3.6% of land in the Green Zone being re-classified;</li> <li>○ 22.6% of Yellow Zone land has been reclassified as Green Zone land;</li> <li>○ 40.8% of land in the Orange Zone being reclassified as Yellow Zone land;</li> <li>○ 15.6% of land in the Red Zone being reclassified as either Orange or Yellow Zone land.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Concerns were raised with 2015 ESC due to its level of accuracy and spatial limitations. In particular, there were concerns that the scale of mapping of the ESC may not allow for accurate identification of specific erosion risk, which could result in under-rated risks.</li> <li>• There were also concerns raised about highly erosion prone land within the Orange Zone. It was noted that this Zone comprises of a high variation of land forms and erosion types, and should be further refined to allow for appropriate levels of control and rules to match the specific nature and risks related to erosion, and slash deposition.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>2016<sup>110</sup> – Update of ESC to subdivide high and very high class.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Refine the ESC to assess erosion risk associated with plantation forestry activities in the High and Very High ESC classes with more accuracy.</li> <li>• Provide descriptions of the revised classes within the High and Very High ESC classes, so that appropriate controls and</li> </ul>	<ul style="list-style-type: none"> <li>• A terrain classification based on dominant erosion process, rock type and topography was developed from an existing “erosion terrain” classification. The terrain classification provides a structure for generalising the types of terrain present within the High and Very High ESC classes. Management of erosion risk varies according to the dominant erosion process.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduced consent requirements to address local concerns in: <ul style="list-style-type: none"> <li>○ Gisborne and Hawkes Bay, by requiring consent for activities most at risk of slash and debris mobilisation; and</li> <li>○ Marlborough, Tasman, Coromandel and Northland, on land with the potential to generate sediment</li> </ul> </li> </ul>

<sup>109</sup> Basher L, Lynn I, Page M (2015a).

<sup>110</sup> Basher L, Barringer J, Lynn I (2016).

	conditions can be applied through the NES-PF to manage the effects of these activities.	<ul style="list-style-type: none"> <li>In total, this resulted in 201, 619 ha of High Risk Orange Zone land being reclassified as Very High Risk Red Zone land.</li> </ul>	<p>discharges to nearby estuarine and coastal environments.</p> <ul style="list-style-type: none"> <li>However, it also introduced consent requirements in a number of areas seen as desirable for forestry (e.g. Manawatu-Whanganui).</li> </ul>
<ul style="list-style-type: none"> <li><b>March 2017 – ESC for the NES for Plantation Forestry<sup>111</sup>.</b></li> </ul>	<ul style="list-style-type: none"> <li>Extend the ESC classification over the whole of mainland New Zealand (mainly Crown owned land).</li> <li>Improved the mapping precision for the ESC along river margins, lakes and the coast.</li> <li>Refined the ESC classes for some land in the High Risk and Very High Risk ESC Zones.</li> </ul>	<ul style="list-style-type: none"> <li>Significant increase from in very high ESC class (554,000 to 5,002,000 ha) although much of this (3.5 million ha) is due to incorporating DOC estate in the spatial set.</li> <li>Polygon boundaries are now consistent with currently accepted boundaries for the DOC estate, rivers, lakes and the coast.</li> <li>89 LUC units were reclassified from High to Very High based on their erosion terrain.</li> <li>19 LUC units were split between Very High and High ESC classes based on variation in rock type or soil within some erosion terrains.</li> </ul>	<ul style="list-style-type: none"> <li>This resulted in large areas of land being reclassified from High to Very High based on their erosion terrain, and a very significant area of land in the inland Taranaki, Rangitikei, and Whanganui area being reclassified as very high.</li> <li>This erosion terrain methodology over-risked some of the less-consolidated tertiary sediments, which are common in the central to lower North Island, because of its broader grouping of this geology.</li> <li></li> </ul>
<ul style="list-style-type: none"> <li><b>April - June 2017 - Refining ESC units - Field expert assessment</b></li> </ul>	<ul style="list-style-type: none"> <li>Further targeted analysis of reclassified terrains in the March 2017, based on the individual LUC units assigned to these terrains, to distinguish between Very High and High ESC classes. This was primarily in response to reassessment of tertiary sediments which were considered to be over-risked in the Landcare Research assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Identification of ESC units that had been over-risked in the March 2017 report. Some affected entire LUC units, which were both higher or lower risk than the field experts believed was appropriate, others identified individual units.</li> </ul>	<ul style="list-style-type: none"> <li>Decrease of risk rating (either to ESC High or ESC Yellow) of land in the following regions: Northland, Waikato, Gisborne, Southern Hawkes Bay, Wairarapa, Taranaki, Manawatu, Importantly, these areas are seen as suitable for plantation forestry purposes as this land cover may help to reduce erosion risk.</li> <li>Increase of risk rating (either to ESC Very High or ESC High) of land in the following regions: Eastern Bay of Plenty, Northern Hawkes Bay.</li> </ul>

<sup>111</sup> Basher, Barringer (2017).

# APPENDIX C: SUMMARY OF OPTIONS TO MANAGE EFFECTS OF FORESTRY ACTIVITIES ON INDIGENOUS VEGETATION AND FAUNA

Many plantation forests contain areas and habitats of indigenous ecological value. This includes riparian margins and areas of indigenous vegetation. Many species of indigenous fauna are also found in plantation forests. While forestry has a number of positive ecological effects during the forestry life cycle, there is also potential for adverse effects during disruptive phases – primarily at the time of harvesting.

The RMA provides a number of statutory directives to manage effects on indigenous biodiversity, in particular:

- Section 5(2)(b) requires natural and physical resources to be managed in a way that safeguards the life supporting capacity of air, water, soil, and ecosystems;
- Section 6(c) of the RMA requires the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna as a matter of national importance;
- Section 7(d) of the RMA requires particular regard to be had to the intrinsic values of ecosystems;
- Regional councils have the function of controlling the use of land for the purpose of maintaining and enhancing ecosystems in water bodies and coastal water. They are also responsible for objectives, policies and methods for maintaining biological diversity; and
- Territorial authorities are responsible for controlling the effects of the use, development, or protection of land, including for the purpose of maintaining indigenous biological diversity.

Given these statutory directives and both the positive effects and potential adverse effects of plantation forestry activities on indigenous biodiversity, this has been a key consideration in the development and refinement of the NES-PF. It has also been a key issue for stakeholders and submitters on the NES-PF.

As outlined in section 6.2, the NES-PF includes a range of controls and conditions to manage the effects of plantation forestry on indigenous vegetation and fauna. That assessment concludes that the combination of controls in the NES-PF and ability to be more stringent in specific circumstances will be an effective approach to manage effects on indigenous vegetation and fauna to achieve the NES-PF policy objective, and this is supported by independent assessments.

The purpose of this section is to provide a summary of the alternative options that have been considered to manage effects on indigenous vegetation and fauna through the NES-PF. In addition to the preferred package of NES-PF provisions outlined in Section 6.2, the following alternatives have been considered:

- Only allowing more stringent rules to prevail over the NES-PF to protect significant natural areas (SNAs) where these areas have been mapped;
- Expanding the list of species in the bird nesting rule to:
  - Include the nationally vulnerable category (but not ground nesting/dwelling birds at risk in plantation forests); and
  - Include bats and invertebrates (e.g. land snails and lizards);
- Require foresters to prepare a Fauna Management Plan for threatened species prior to mechanical land preparation. .

An assessment of these options in terms of the three key criteria of the NES-PF (efficiency, certainty, and environmental outcomes) is provided below. A key consideration in selecting the most effective approach is achieving an appropriate balance between robust environmental protections on one hand while ensuring the efficiency and certainty objectives of the NES-PF are also achieved.

It is also important to recognise the work underway to develop a National Policy Statement for Indigenous Biodiversity. This is considered to be the most appropriate forum to consider wider biodiversity issues (e.g. SNA significance assessment and identification) rather than address these through a single sector NES.

Table 34: Analysis of alternative options to manage indigenous vegetation and fauna.

Option	Efficiency	Certainty	Environmental outcomes
<p><b>Only allow stringency where SNAs have been mapped</b></p> <p>This option would only allow councils rules to be more stringent than the NES-PF to protect SNAs where the SNA has been mapped in the plan. Any conditions in the NES-PF relating to SNAs (e.g. afforestation setbacks) would also be limited to mapped SNAs. This is the proposed approach consulted on in 2015.</p> <p>Submitters raised a number of concerns with this approach as outlined in the NES-PF Report on Submissions and Recommended Amendments.</p>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li>Higher levels of efficiency for foresters as they would not have to potentially undertake ecological surveys to assess the ecological significance of areas of indigenous vegetation adjacent to their operations.</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>Overrides existing methods in plans which have often involved significant time and costs for councils and their communities.</li> <li>May incentivise councils to map SNAs and initiate plan changes to protect these areas where they currently rely on criteria<sup>112</sup>. This would be a high costs for councils and their communities as a result of a sector based NES.</li> <li>The proposed NPS on Biodiversity is considering these issues in a wider context. This is a risk that specifying methods to identify SNAs in the NES-PF could be overridden by this work</li> </ul>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li>Mapping of SNAs provides a clear delineation of a SNA. Methods such as criteria to assess the significance of these areas can create uncertainty for applicants as they generally require an additional specialist assessment to be undertaken. Criteria do not specifically identify an area; they only specify a process through which an area can be evaluated in terms of its significance<sup>113</sup>.</li> <li>More certainty for foresters about when the stringency provisions in the NES-PF may apply and when they need to check the underlying provisions in the relevant plan.</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>Less certainty for councils that the approach they have developed and tested through the Schedule 1 process to meet their obligations under section</li> </ul>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li>Accurate mapping of high value or significant areas recognised under sections 6(a), 6(b) and 6(c) of the RMA in regional and district plans is good practice under the RMA. It ensures that the location of significant areas are well defined which assists with their management/protection.</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>Many councils have chosen to use other valid methods than mapping to meet their obligations under section 6(c) of the RMA, such as habitat approaches and criteria.</li> <li>These alternative approaches have some proven benefits<sup>114</sup>, including avoiding the time/cost to map sites which is expensive and often contentious with landowners, and avoiding issues associated with inaccurate/incomplete mapping.</li> <li>Alternative approaches to mapping have thoroughly tested through the Schedule 1 process and Environment Court, including landmark cases in</li> </ul>

<sup>112</sup> A review of 35 district plans found that 21 plans identified SNAs through schedules or maps and 10 relied on criteria to identify SNA but had not mapped the location of these

<sup>113</sup> As noted in *Opoutere Ratepayers and Residents' Assn v Waikato RC* [2015] NZ EnvC 105.

<sup>114</sup> The alternative approaches are discussed in more depth in Fleur J. F. Maseyk1 and Philippe Gerbeaux (2014), 'Advances in the identification and assessment of ecologically significant habitats in two areas of contrasting biodiversity loss in New Zealand' New Zealand Ecology Journal. In this paper, they concluded that continued reliance on a schedule of sites is an inferior approach to the habitat-type approach adopted by the OnePlan.

Option	Efficiency	Certainty	Environmental outcomes
	creating inefficiencies and inconsistencies.	<p>6(c) would not be overridden by NES-PF.</p> <ul style="list-style-type: none"> <li>Period of uncertainty as councils undertake mapping of SNAs and initiate plan changes through Schedule 1 process.</li> </ul>	<p>Manawatu-Wanganui and West Coast<sup>115</sup>. These cases have consolidated the list of ecological significance criteria and confirmed that this is a valid approach to meet council obligations under section 6(c) of the RMA.</p> <ul style="list-style-type: none"> <li>Based on these findings, there is a significant risk that only allowing more stringent rules to apply to areas mapped SNA would undermine existing practices that have been thoroughly tested and potentially result in significant adverse environment effects.</li> </ul>
<p><b>Preferred approach:</b></p> <p><i>Allow stringency in relation to SNAs irrespective of how these are identified to ensure the NES-PF does not undermine existing practice and permit activities with significant adverse environmental effects.</i></p>			
<p><b>The list of species and procedures in the bird nesting regulation</b></p> <p>The permitted activity conditions in the 2015 Consultation Document include a general condition relating to bird nesting provision. Where Nationally Critical or Nationally Endangered species<sup>116</sup> are</p>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li><b>Option 1</b> - Many foresters already implement voluntary practices to protect the expanded list of species, including kiwi and falcons. The additional costs to comply an expanded threatened bird protection condition would therefore be very limited for these foresters.</li> </ul>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li><b>Option 1</b> - Applies mandatory national consistency in relation to protection of the nests of those birds covered in the highest nationally threatened categories, rather than relying on voluntary measures which will provide more certainty.</li> </ul>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li><b>Option 1</b> - Extending the regulations to cover all 'nationally threatened species' (i.e. extending the list to Nationally Vulnerable bird species) would provide an added level of protection where the level of risk is greatest. <b>Option 2</b> - Extending the regulations to cover bats and invertebrates would provide an</li> </ul>

<sup>115</sup> *Andrew Day v Manawatu – Wanganui Regional Council* [2012] NZEnvC 182; *Friends of Shearer Swamp Inc v West Coast Regional Council* [2010] NZEnvC 345; *Friends of Shearer Swamp Inc v West Coast Regional Council* [2012] NZEnvC 6; *Friends of Shearer Swamp Inc v West Coast Regional Council* [2012] NZEnvC 53; and *Friends of Shearer Swamp Inc v West Coast Regional Council* [2012] NZEnvC 162.

<sup>116</sup> DOC uses the New Zealand Threat Classification System (NZTCS) to assess the conservation status of species according to the risk of extinction they face within New Zealand. There are three categories of threatened species (Nationally Critical – most severely threatened, facing an immediate high risk of extinction, Nationally Endangered – facing high risk of extinction in the short term, Nationally Vulnerable – facing a risk of extinction in the medium term) and four categories of at risk species (declining, relict, naturally uncommon, recovering).



Option	Efficiency	Certainty	Environmental outcomes
<p>present, this required procedures to be in place to identify the nesting sites and protect them from disturbance.</p> <p>Analysis post-consultation considered when this list of species was appropriate. The following alternative options were considered:</p> <ol style="list-style-type: none"> <li>1. Expanding to refer to threatened bird species (i.e. Nationally Critical, Nationally Endangered, and Nationally Vulnerable); and</li> <li>2. Expanding to include bats and invertebrates (e.g. land snails and lizards).</li> </ol>	<ul style="list-style-type: none"> <li>• <b>Option 1</b> - Less cost for foresters to develop procedures, staff training and monitoring because fewer birds are required to be addressed by the regulations. In particular, it doesn't cover those birds found in plantation forests and at risk of plantation forestry activities, such as the kiwi which has yearlong nesting season.</li> <li>• <b>Option 1</b> – Less costs for councils to undertaken compliance monitoring.</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• <b>Option 1 and 2</b> - Voluntary practices to protect the expanded list of bird species are already in place in many situations this introduces additional regulation for foresters to comply with. This will result in addition compliance costs, particularly for those smaller forest companies who do don't follow the procedures in the ECOP or the International Forest Stewardship Council (FSC) system.</li> <li>• <b>Option 1 and 2</b> - Requiring procedures to be in place to identify and protect specific indigenous species goes beyond the provisions commonly in RMA plans. Most districts and regional plans make provision for biodiversity through indigenous vegetation clearance rules, and rules for SNAs, rather than</li> </ul>	<p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• <b>Option 1</b> - The location of the expanded list of bird species is not always well known, which creates some uncertainty for foresters. This will be mitigated through guidance and information on bird distribution, using the Bird Atlas of New Zealand and other sources. Information on the location of bird species can also be sourced from DOC and other agencies.</li> <li>• <b>Option 2</b> - There is limited information on the location of bats and invertebrates within plantation forests, which could create significant uncertainty for foresters.</li> <li>• <b>Option 2</b> - There is limited information available about appropriate procedures to mitigate effects for bats and these other species. Procedures for bats are currently being developed by the New Zealand Forest Owners Association utilising experts in this field. It is premature to regulate for procedures and impose costs where bat behaviour and effective methods to minimise</li> </ul>	<p>added level of protection of these species where they are present</p> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• <b>Option 1 and 2</b> - extending the regulations to cover all 'nationally threatened species' would not extend to North Island brown kiwi, the North Island weka and the New Zealand falcon as these are not considered nationally threatened<sup>117</sup>. These birds are particularly at risk from plantation forestry activities because they are either ground dwelling (kiwi, weka) or nest on the ground (falcon). While many forestry operators implement voluntary practices to protect these species, adding them to the list of species in the NES-PF will provide an added level of protection for these species.</li> <li>• <b>Option 1</b> - Not extending the list to include bats and invertebrates will not increase the level of protections for these species. However, there are other controls in the NES-PF that will provide a level of protection to these species. This includes the provision to have more stringent rules to protect SNAs, setbacks and controlling disturbance of riparian zones.</li> </ul>

<sup>117</sup> The North island kiwi is categorised as at risk (declining) and the bush and eastern falcon are categorised as At Risk (recovering) as is the North Island weka.

Option	Efficiency	Certainty	Environmental outcomes
	<p>focus on particular species. This relates to the difficulties in managing specific species which are mobile compared to habitats.</p> <ul style="list-style-type: none"> <li>• <b>Option 1 and 2</b> - Increased regulation will reduce the efficiency of the NES-PF for foresters.</li> <li>• <b>Option 2</b> –Limited information about the location of these species would result in extra costs on foresters to ascertain locations.</li> <li>• <b>Option 2</b> - Expanding scope to include bats and invertebrates would pose a significant cost on forestry that is not borne by other sectors.</li> </ul>	<p>adverse effects are not yet understood.</p>	
<p><b>Preferred approach:</b></p> <ul style="list-style-type: none"> <li>• Expand the list of fauna that fall within the bird nesting condition to include North Island brown kiwi, eastern falcon and the bush falcon (North Island weka).</li> <li>• Provide guidance on location of listed bird species and continue to promote voluntary measures undertaken by foresters.</li> </ul>			
<p><b>Require foresters to prepare a Fauna Management Plan for threatened species prior to mechanical land preparation</b></p> <p>This option would respond to concerns about the about the protection of fauna during mechanical land preparation.</p> <p>This option would involve the preparation of a management plan for mechanical land preparation for those species</p>	<p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• Voluntary mechanisms such as FSC certification and the ECOP ensure that there are generally appropriate procedures in place to protect indigenous species. The development of an additional management plan creates additional work and costs for foresters.</li> <li>• The NES-PF already introduces a lot of new requirements for foresters, including requirements to prepare management plans and notify councils</li> </ul>	<p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• There would be difficulties under this option to determine an appropriate trigger for when a Fauna Management Plan would be required as the presence of species is not known. This could create a number of uncertainties and implementation issues in practice.</li> <li>• The development of management plans could be applied where threatened</li> </ul>	<p><u>Pros</u></p> <ul style="list-style-type: none"> <li>• Land based fauna are particularly at risk during mechanical land preparation. The compulsory development of a Fauna Management Plan would help to protect a wider range of species with a conservation value during mechanical land preparation.</li> </ul> <p><u>Cons</u></p> <ul style="list-style-type: none"> <li>• Council's generally take a habitat approach to managing fauna through the RMA rather than a species-specific</li> </ul>

Option	Efficiency	Certainty	Environmental outcomes
of high conservation value and a high sensitivity to forestry activities (excluding birds which are addressed in the bird nesting regulations) where those species are known to be present.	<p>of certain forestry activities. Introducing additional requirements will compromise the efficiency benefits of the NES-PF.</p> <ul style="list-style-type: none"> <li>• Cost imposed on foresters who would need to undertake surveys to establish the presence of species. Such cost is not borne by other sectors.</li> <li>• Imposes costs and requirements beyond what is required in local authority plans.</li> </ul>	<p>species are “known” to exist. However, the application of a permitted activity condition requires a more certain rule and must be based on retrievable information.</p> <ul style="list-style-type: none"> <li>• A national map of species distribution to facilitate such a regulation would be too complex, impracticable and costly to provide and likely uncertain due to lack of data</li> </ul>	<p>approach. This reflects the requirements in section 6(c) and these habitats are already protected through the provision to be more stringent.</p> <ul style="list-style-type: none"> <li>• Provides smaller benefit because the main risk to species from mechanical land preparation comes from mechanical land preparation carried out before afforestation. The regulations exclude mechanical land preparation before afforestation so the relevant plan rules would continue to apply.</li> <li>• The regulations exclude mechanical land preparation before afforestation, so plan rules apply and protection will be provided where these restrict vegetation/ habitat clearance and disturbance.</li> </ul>
<p><b>Preferred approach:</b></p> <p><i>No requirement for a Fauna Management Plan for threatened species prior to mechanical land preparation as effects on indigenous fauna are adequately dealt with through other provisions in the NES-PF, including the amended indigenous bird nesting condition referred to above.</i></p>			